

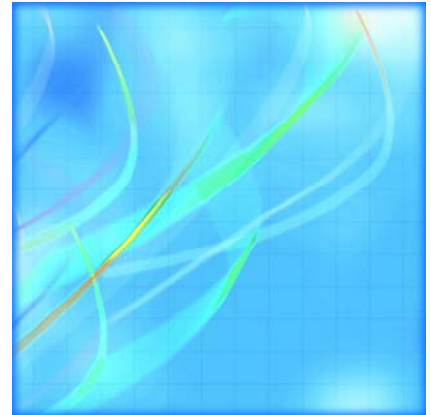


Catalogue no. 21-010-XIE

# Net farm income

Agriculture economic  
statistics

May 2005



Statistics  
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Statistics Canada  
Agriculture Division  
Farm Income and Prices Section

# Net farm income

## Agriculture economic statistics

May 2005

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# Symbols

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The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

## Acknowledgements

This publication was prepared under the direction of:

- **Paul Murray**, Chief, Farm Income and Prices Section
- **Marco Morin**, Head, Farm Expenses Unit
- **Patricia Connor**, Subject matter officer, Farm Income and Prices Section

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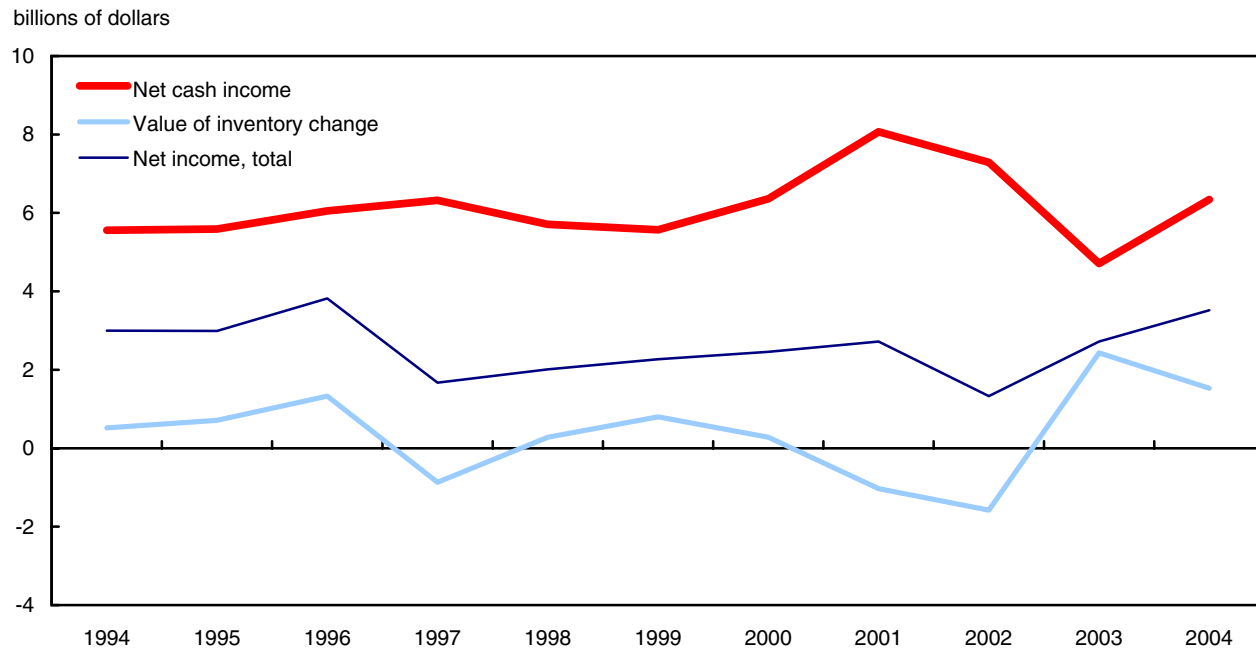
# Highlights

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- After two years of decreases following back-to-back droughts and the closure of the US border to live cattle exports, net cash income - the difference between a farmer's cash receipts and operating expenses - rebounded to \$6.3 billion in 2004.

Chart 1

## Net cash income and total net income increased in 2004



# Analysis

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## Net cash income rebounded to \$6.3 billion in 2004

After two years of decreases following back-to-back droughts and the closure of the US border to live cattle exports, net cash income - the difference between a farmer's cash receipts and operating expenses - rebounded to \$6.3 billion in 2004.

While Canadian producers saw their net cash incomes rise by 34.4% from the low received in 2003, this level was still 1.0% below the previous five-year average from 1999 to 2003.

All provinces recorded increases, except Prince Edward Island. However, compared to the previous five-year average, six provinces experienced decreases in net cash income in 2004.

Total farm cash receipts rose 6.1%, driven by higher revenues for crops and livestock, while farm operating expenses rose 1.6%. Inputs, such as machinery fuel, cash wages and machinery repairs, contributed to the higher expenses.

Net cash income can vary widely from one farm to another because of factors such as commodities produced, prices and weather. It does not take into account depreciation or the value of on-farm inventory changes.

## Higher receipts and farm inventories bump up total net income

After reaching an extremely low level in 2002, total net income rebounded in the following two years to reach \$3.5 billion in 2004, which was 52.9% above the previous five-year average. Total net income adjusts net cash income for changes in farmer-owned inventories of crops and livestock, depreciation and income in kind.

The increase in receipts after two consecutive years of decreases in 2002 and 2003 and the value of farm inventories explained a large part of this increase. Receipts went up by \$2.1 billion between 2003 and 2004, while the value of inventory change increased by \$1.5 billion.

Back-to-back droughts in western Canada sharply curtailed farm grain and oilseed inventories by the end of 2002. Consequently, the return to more normal production levels in 2003 and 2004 helped increase inventories. In the same way, the BSE crisis forced the producers to keep their livestock on the farm, causing an increase in inventories.

The largest increases of the value of inventory were recorded in Saskatchewan and Alberta. Saskatchewan led with the total value of inventory change reaching \$812 million, while Alberta recorded \$511 million.

## Related products

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### Selected publications from Statistics Canada

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21-007-X	Farm product price index
21-011-X	Farm cash receipts - Agriculture economic statistics
21-012-X	Farm operating expenses and depreciation charges - Agriculture economic statistics
21-013-X	Value of farm capital - Agriculture economic statistics
21-014-X	Farm debt outstanding - Agriculture economic statistics
21-015-X	Direct payments to agriculture producers - Agriculture economic statistics
21-016-X	Balance sheet of the agricultural sector - Agriculture economic statistics
21-017-X	Agriculture value added account - Agriculture economic statistics
21-018-X	Farm business cash flows - Agriculture economic statistics

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### Selected CANSIM tables from Statistics Canada

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002-0001	Farm cash receipts
002-0002	Farm cash receipts
002-0009	Income of farm operators from farming operations

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### Selected surveys from Statistics Canada

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3473	Net Farm Income
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## **Selected tables of Canadian statistics from Statistics Canada**

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- *Canadian Statistics - Net farm income, by provinces*
- *Canadian Statistics - Net cash receipts*
- *Canadian Statistics - Net cash receipts (quarterly)*
- *Canadian Statistics - Income of farm operators, by province*

# Statistical tables

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Table 1-1

## Net farm income — Agriculture economic statistics, 1981 to 1985

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
	'000 of dollars										
<b>1981</b>											
+Total cash receipts	32,239	189,582	227,003	194,913	2,681,494	4,836,578	1,651,428	3,993,891	3,849,946	877,134	18,534,208
-Operating expenses after rebates	28,702	115,022	172,748	150,796	1,973,827	3,683,217	1,251,288	2,345,457	2,685,203	782,128	13,188,388
=Net cash income	3,537	74,560	54,255	44,117	707,667	1,153,361	400,140	1,648,434	1,164,743	95,006	5,345,820
+Income in kind	408	2,903	3,793	4,008	63,237	66,426	14,887	27,286	23,404	10,434	216,786
-Depreciation charges	1,918	18,109	22,612	17,920	240,928	610,519	251,006	674,596	671,675	103,400	2,612,683
=Realized net income	2,027	59,354	35,436	30,205	529,976	609,268	164,021	1,001,124	516,472	2,040	2,949,923
+Value of inventory change	627	20,996	-1,398	9,596	-12,236	-40,389	227,125	478,252	113,451	-13,375	782,649
<b>=Total net income</b>	<b>2,654</b>	<b>80,350</b>	<b>34,038</b>	<b>39,801</b>	<b>517,740</b>	<b>568,879</b>	<b>391,146</b>	<b>1,479,376</b>	<b>629,923</b>	<b>-11,335</b>	<b>3,732,572</b>
<b>1982</b>											
+Total cash receipts	33,403	161,900	232,242	190,327	2,840,677	4,861,515	1,724,981	4,063,725	3,812,093	961,783	18,882,646
-Operating expenses after rebates	30,528	125,103	189,191	163,002	2,086,314	3,815,051	1,287,879	2,495,479	2,754,889	854,419	13,801,855
=Net cash income	2,875	36,797	43,051	27,325	754,363	1,046,464	437,102	1,568,246	1,057,204	107,364	5,080,791
+Income in kind	390	2,333	4,462	3,883	60,671	62,868	13,918	26,034	21,124	10,074	205,757
-Depreciation charges	1,913	18,560	23,942	18,117	259,335	628,073	274,349	740,205	721,112	103,925	2,789,531
=Realized net income	1,352	20,570	23,571	13,091	555,699	481,259	176,671	854,075	357,216	13,513	2,497,017
+Value of inventory change	-802	794	294	1,438	-33,101	-134,420	78,243	127,062	-54,749	-10,391	-25,632
<b>=Total net income</b>	<b>550</b>	<b>21,364</b>	<b>23,865</b>	<b>14,529</b>	<b>522,598</b>	<b>346,839</b>	<b>254,914</b>	<b>981,137</b>	<b>302,467</b>	<b>3,122</b>	<b>2,471,385</b>
<b>1983</b>											
+Total cash receipts	34,949	172,431	236,496	199,979	2,707,935	5,010,213	1,803,369	4,026,199	3,751,296	916,641	18,859,508
-Operating expenses after rebates	31,263	132,718	197,886	160,759	2,102,357	3,766,328	1,351,396	2,673,406	2,734,203	811,247	13,961,563
=Net cash income	3,686	39,713	38,610	39,220	605,578	1,243,885	451,973	1,352,793	1,017,093	105,394	4,897,945
+Income in kind	394	2,444	4,372	4,046	61,694	63,653	13,704	23,681	20,090	10,495	204,573
-Depreciation charges	1,907	17,991	25,061	18,258	260,448	617,502	283,751	769,726	725,800	106,534	2,826,978
=Realized net income	2,173	24,166	17,921	25,008	406,824	690,036	181,926	606,748	311,383	9,355	2,275,540
+Value of inventory change	1,171	-4,962	-47	-8,460	-36,759	-104,635	-164,230	-178,509	-190,906	8,714	-678,623
<b>=Total net income</b>	<b>3,344</b>	<b>19,204</b>	<b>17,874</b>	<b>16,548</b>	<b>370,065</b>	<b>585,401</b>	<b>17,696</b>	<b>428,239</b>	<b>120,477</b>	<b>18,069</b>	<b>1,596,917</b>
<b>1984</b>											
+Total cash receipts	41,497	191,773	258,997	217,348	3,053,799	5,301,832	1,989,523	4,433,930	3,987,826	1,004,600	20,481,125
-Operating expenses after rebates	35,239	139,481	209,932	168,620	2,145,806	3,908,877	1,456,147	2,772,107	2,999,462	866,504	14,702,175
=Net cash income	6,258	52,292	49,065	48,728	907,993	1,392,955	533,376	1,661,823	988,364	138,096	5,778,950
+Income in kind	447	2,395	4,124	4,120	60,697	63,329	14,114	23,730	19,823	10,849	203,628
-Depreciation charges	1,933	18,322	26,115	19,752	262,896	599,829	283,147	792,075	709,456	105,108	2,818,633
=Realized net income	4,772	36,365	27,074	33,096	705,794	856,455	264,343	893,478	298,731	43,837	3,163,945
+Value of inventory change	323	17,511	-615	5,117	25,369	72,792	4,817	-757,454	-329,240	-11,472	-972,852
<b>=Total net income</b>	<b>5,095</b>	<b>53,876</b>	<b>26,459</b>	<b>38,213</b>	<b>731,163</b>	<b>929,247</b>	<b>269,160</b>	<b>136,024</b>	<b>-30,509</b>	<b>32,365</b>	<b>2,191,093</b>
<b>1985</b>											
+Total cash receipts	43,153	172,025	258,987	216,998	3,088,627	5,045,405	2,010,535	4,057,512	3,837,576	1,061,382	19,792,200
-Operating expenses after rebates	38,138	143,249	205,526	177,981	2,232,969	4,004,468	1,510,739	2,886,599	3,028,284	887,278	15,115,231
=Net cash income	5,015	28,776	53,461	39,017	855,658	1,040,937	499,796	1,170,913	809,292	174,104	4,676,969
+Income in kind	491	2,338	4,076	4,060	60,125	61,771	13,445	23,179	18,896	10,313	198,694
-Depreciation charges	1,924	18,543	26,582	20,171	257,416	576,572	266,706	767,251	705,522	103,693	2,744,380
=Realized net income	3,582	12,571	30,955	22,906	658,367	526,136	246,535	426,841	122,666	80,724	2,131,283
+Value of inventory change	-148	647	-2,704	14,329	7,640	148,590	293,033	254,108	-20,292	-34,444	660,759
<b>=Total net income</b>	<b>3,434</b>	<b>13,218</b>	<b>28,251</b>	<b>37,235</b>	<b>666,007</b>	<b>674,726</b>	<b>539,568</b>	<b>680,949</b>	<b>102,374</b>	<b>46,280</b>	<b>2,792,042</b>

Note: The data in this table were last revised in June 1997.

Table 1-2

Net farm income — Agriculture economic statistics, 1986 to 1990

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
	'000 of dollars										
<b>1986</b>											
+Total cash receipts	44,306	186,195	274,993	225,401	3,259,523	5,500,850	2,101,958	4,147,534	3,783,639	1,106,481	20,630,879
-Operating expenses after rebates	40,881	146,129	207,089	179,581	2,301,480	4,000,043	1,463,542	2,895,318	2,981,260	881,750	15,097,073
=Net cash income	3,425	40,066	67,904	45,820	958,043	1,500,807	638,416	1,252,216	802,379	224,731	5,533,806
+Income in kind	361	2,058	2,717	2,612	45,713	43,030	9,656	13,541	15,901	6,122	141,710
-Depreciation charges	1,931	18,664	27,228	20,396	271,442	564,242	274,745	761,309	706,409	103,216	2,749,582
=Realized net income	1,855	23,460	43,393	28,036	732,314	979,595	373,327	504,448	111,871	127,637	2,925,934
+Value of inventory change	-305	-5,259	-3,904	-16,418	-93,035	-340,624	-47,339	680,550	471,085	-2,715	642,036
<b>=Total net income</b>	<b>1,550</b>	<b>18,201</b>	<b>39,489</b>	<b>11,618</b>	<b>639,279</b>	<b>638,971</b>	<b>325,988</b>	<b>1,184,998</b>	<b>582,956</b>	<b>124,922</b>	<b>3,567,970</b>
<b>1987</b>											
+Total cash receipts	47,543	215,869	301,272	241,683	3,328,365	5,550,850	2,115,945	4,383,640	4,038,789	1,121,603	21,345,559
-Operating expenses after rebates	43,601	151,094	219,838	189,150	2,430,371	4,115,654	1,462,256	2,888,009	3,000,157	887,058	15,387,188
=Net cash income	3,942	64,775	81,434	52,533	897,994	1,435,196	653,689	1,495,631	1,038,632	234,545	5,958,371
+Income in kind	320	1,641	2,263	2,226	39,835	35,179	8,282	11,312	13,685	5,317	120,058
-Depreciation charges	1,995	18,518	27,686	20,940	285,909	564,008	265,711	737,814	686,455	102,618	2,711,654
=Realized net income	2,267	47,898	56,011	33,819	651,920	906,367	396,260	769,129	365,862	137,244	3,366,775
+Value of inventory change	901	-7,683	-2,483	13,813	-28,901	-53,008	-71,462	-167,891	23,555	4,864	-288,295
<b>=Total net income</b>	<b>3,168</b>	<b>40,215</b>	<b>53,528</b>	<b>47,632</b>	<b>623,019</b>	<b>853,359</b>	<b>324,798</b>	<b>601,238</b>	<b>389,417</b>	<b>142,108</b>	<b>3,078,480</b>
<b>1988</b>											
+Total cash receipts	55,073	209,253	321,902	252,971	3,585,434	5,779,591	2,089,475	4,467,877	4,467,340	1,206,316	22,435,232
-Operating expenses after rebates	48,442	160,165	233,275	191,962	2,555,046	4,326,903	1,494,793	2,869,202	3,107,958	954,348	15,942,094
=Net cash income	6,631	49,088	88,627	61,009	1,030,388	1,452,688	594,682	1,598,675	1,359,382	251,968	6,493,138
+Income in kind	326	1,590	2,253	2,244	41,028	34,937	8,168	10,606	13,229	5,160	119,540
-Depreciation charges	2,263	19,285	29,866	22,245	304,046	603,708	271,640	723,785	686,497	106,911	2,770,246
=Realized net income	4,694	31,393	61,014	41,008	767,370	883,917	331,210	885,496	686,114	150,217	3,842,432
+Value of inventory change	152	9,330	660	-10,091	9,702	-93,578	-224,637	-907,072	85,899	21,307	-1,108,328
<b>=Total net income</b>	<b>4,846</b>	<b>40,723</b>	<b>61,674</b>	<b>30,917</b>	<b>777,072</b>	<b>790,339</b>	<b>106,573</b>	<b>-21,576</b>	<b>772,013</b>	<b>171,524</b>	<b>2,734,104</b>
<b>1989</b>											
+Total cash receipts	58,568	258,163	325,899	274,056	3,755,263	5,786,193	2,108,196	4,498,721	4,599,469	1,254,741	22,919,269
-Operating expenses after rebates	50,355	170,685	243,780	203,610	2,673,228	4,463,158	1,592,498	3,120,268	3,421,258	1,027,077	16,965,917
=Net cash income	8,213	87,478	82,119	70,446	1,082,035	1,323,035	515,698	1,378,453	1,178,211	227,664	5,953,352
+Income in kind	329	1,680	2,289	2,283	41,384	35,336	8,276	10,511	13,130	5,172	120,389
-Depreciation charges	2,639	21,468	31,956	22,899	320,925	668,551	277,180	715,094	716,248	116,525	2,893,485
=Realized net income	5,903	67,690	52,452	49,830	802,494	689,820	246,794	673,870	475,093	116,311	3,180,256
+Value of inventory change	612	-266	-1,116	2,916	-15,858	176,161	144,298	452,295	99,799	5,840	864,681
<b>=Total net income</b>	<b>6,515</b>	<b>67,424</b>	<b>51,336</b>	<b>52,746</b>	<b>786,636</b>	<b>865,981</b>	<b>391,092</b>	<b>1,126,165</b>	<b>574,892</b>	<b>122,151</b>	<b>4,044,937</b>
<b>1990</b>											
+Total cash receipts	60,139	253,381	331,697	280,204	3,783,772	5,690,618	1,985,442	4,030,819	4,283,091	1,298,776	21,997,939
-Operating expenses after rebates	54,682	173,992	244,922	210,085	2,777,558	4,460,209	1,605,665	3,082,937	3,407,190	1,038,676	17,055,916
=Net cash income	5,457	79,389	86,775	70,119	1,006,214	1,230,409	379,777	947,882	875,901	260,100	4,942,023
+Income in kind	312	1,629	2,280	2,295	40,646	35,058	8,403	10,399	13,139	5,015	119,175
-Depreciation charges	3,051	22,715	33,395	25,005	340,765	711,392	281,822	699,658	745,388	125,962	2,989,153
=Realized net income	2,718	58,303	55,660	47,409	706,095	554,075	106,358	258,623	143,652	139,153	2,072,045
+Value of inventory change	-306	-7,888	-1,918	-5,060	10,967	4,603	314,037	818,329	202,391	-1,919	1,333,236
<b>=Total net income</b>	<b>2,412</b>	<b>50,415</b>	<b>53,742</b>	<b>42,349</b>	<b>717,062</b>	<b>558,678</b>	<b>420,395</b>	<b>1,076,952</b>	<b>346,043</b>	<b>137,234</b>	<b>3,405,281</b>

Note: The data in this table were last revised in June 1999.



Table 1-3 – continued

**Net farm income — Agriculture economic statistics, 1991 to 2000**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
'000 of dollars											
<b>1998</b>											
+Total cash receipts	73,186	324,464	376,570	351,133	4,824,088	6,980,488	2,938,158	5,551,592	6,452,355	1,814,289	29,686,323
-Operating expenses after rebates	63,634	258,955	304,877	288,674	3,739,607	5,849,171	2,381,337	4,289,421	5,284,584	1,519,281	23,979,541
=Net cash income	9,552	65,509	71,693	62,459	1,084,481	1,131,317	556,821	1,262,171	1,167,771	295,008	5,706,782
+Income in kind	245	1,517	2,881	2,716	47,463	43,207	8,793	11,483	14,813	7,031	140,154
-Depreciation charges	4,377	34,873	42,005	33,251	471,041	957,902	376,404	944,038	1,036,534	217,305	4,117,730
=Realized net income	5,420	32,153	32,569	31,924	660,903	216,622	189,210	329,616	146,050	84,734	1,729,206
+Value of inventory change	375	-12,823	1,518	-2,012	-1,656	17,425	55,061	23,527	160,442	35,121	276,978
<b>=Total net income</b>	<b>5,795</b>	<b>19,330</b>	<b>34,087</b>	<b>29,912</b>	<b>659,247</b>	<b>234,047</b>	<b>244,271</b>	<b>353,143</b>	<b>306,492</b>	<b>119,855</b>	<b>2,006,184</b>
<b>1999</b>											
+Total cash receipts	74,822	349,570	393,053	377,750	5,100,287	7,186,221	2,908,005	5,540,474	6,520,942	1,905,986	30,357,110
-Operating expenses after rebates	63,854	271,421	311,703	296,908	3,902,054	5,999,107	2,376,309	4,277,014	5,722,101	1,566,205	24,786,678
=Net cash income	10,968	78,149	81,350	80,842	1,198,233	1,187,114	531,696	1,263,460	798,841	339,781	5,570,432
+Income in kind	252	1,523	2,905	2,824	48,586	43,493	8,758	11,404	14,909	6,838	141,495
-Depreciation charges	4,520	34,506	44,570	36,941	501,987	986,871	388,874	946,925	1,073,571	221,736	4,240,501
=Realized net income	6,700	45,166	39,685	46,725	744,832	243,736	151,580	327,939	-259,821	124,883	1,471,426
+Value of inventory change	1,924	-3,249	-4,045	-10,330	17,555	-12,303	-25,977	331,521	497,632	3,524	796,252
<b>=Total net income</b>	<b>8,624</b>	<b>41,917</b>	<b>35,640</b>	<b>36,395</b>	<b>762,387</b>	<b>231,433</b>	<b>125,603</b>	<b>659,460</b>	<b>237,811</b>	<b>128,407</b>	<b>2,267,678</b>
<b>2000</b>											
+Total cash receipts	74,786	323,096	414,292	369,290	5,422,498	7,872,186	3,150,535	5,722,872	7,562,537	2,048,439	32,960,524
-Operating expenses after rebates	66,906	282,444	329,683	320,053	4,228,407	6,402,128	2,563,455	4,572,962	6,157,013	1,680,367	26,603,418
=Net cash income	7,880	40,652	84,609	49,237	1,194,091	1,470,058	587,080	1,149,910	1,405,524	368,072	6,357,106
+Income in kind	376	1,536	2,987	2,919	50,661	45,334	9,128	12,324	16,267	7,608	149,139
-Depreciation charges	4,846	37,109	48,545	40,592	542,942	1,032,277	386,933	923,111	1,085,417	228,644	4,330,416
=Realized net income	3,410	5,079	39,051	11,564	701,810	483,115	209,275	239,123	336,374	147,036	2,175,829
+Value of inventory change	392	17,358	-1,779	10,058	-67,801	-180,981	175,025	291,137	38,697	2,794	284,900
<b>=Total net income</b>	<b>3,802</b>	<b>22,437</b>	<b>37,272</b>	<b>21,622</b>	<b>634,009</b>	<b>302,134</b>	<b>384,300</b>	<b>530,260</b>	<b>375,071</b>	<b>149,830</b>	<b>2,460,729</b>

1. Data starting from 1997 are not directly comparable to previous years due to the use of the North American Industry Classification System (NAICS). Please see the section about this in "Data quality, concepts and methodology" for further information.

**Note:** The data in this table were last revised in November 2003.

Table 1-4

**Net farm income — Agriculture economic statistics, 2001 to 2002**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
'000 of dollars											
<b>2001</b>											
+Total cash receipts	78,954	336,240	419,894	412,606	5,753,823	8,553,682	3,701,149	6,490,850	8,349,142	2,224,466	36,320,804
-Operating expenses after rebates	71,091	291,262	350,310	340,636	4,469,232	6,963,428	2,789,577	4,770,084	6,440,529	1,768,646	28,254,795
=Net cash income	7,863	44,978	69,584	71,970	1,284,591	1,590,254	911,572	1,720,766	1,908,613	455,820	8,066,009
+Income in kind	492	1,388	2,622	2,651	46,284	41,591	8,733	11,896	15,353	6,962	137,980
-Depreciation charges	5,117	37,595	50,490	43,026	571,835	1,054,432	397,866	945,133	1,120,518	229,839	4,455,851
=Realized net income	3,238	8,771	21,716	31,595	759,040	577,413	522,439	787,529	803,448	232,943	3,748,138
+Value of inventory change	468	-66,372	-1,428	-4,390	88,226	-105,735	-65,786	-628,801	-260,616	18,856	-1,025,578
<b>=Total net income</b>	<b>3,706</b>	<b>-57,601</b>	<b>20,288</b>	<b>27,205</b>	<b>847,266</b>	<b>471,678</b>	<b>456,653</b>	<b>158,728</b>	<b>542,832</b>	<b>251,799</b>	<b>2,722,560</b>
<b>2002</b>											
+Total cash receipts	80,473	363,975	404,748	424,005	5,523,286	8,512,059	3,853,177	6,461,933	8,357,051	2,196,700	36,177,397
-Operating expenses after rebates	74,283	311,526	367,875	358,240	4,604,832	7,226,807	2,928,290	4,803,122	6,308,981	1,900,954	28,884,910
=Net cash income	6,190	52,449	36,873	65,765	918,454	1,285,252	924,887	1,658,811	2,048,070	295,746	7,292,487
+Income in kind	609	1,353	2,558	2,561	44,584	40,275	8,298	11,553	14,928	6,653	133,379
-Depreciation charges	5,401	35,654	50,897	43,183	579,369	1,120,796	397,354	911,976	1,120,034	256,307	4,520,971
=Realized net income	1,398	18,148	-11,466	25,143	383,669	204,731	535,831	758,388	942,964	46,092	2,904,895
+Value of inventory change	-375	78,807	840	17,826	19,571	151,502	-26,335	-751,818	-1,084,842	17,512	-1,577,312
<b>=Total net income</b>	<b>1,023</b>	<b>96,955</b>	<b>-10,626</b>	<b>42,969</b>	<b>403,240</b>	<b>356,233</b>	<b>509,496</b>	<b>6,570</b>	<b>-141,878</b>	<b>63,604</b>	<b>1,327,583</b>

**Note:** The data in this table were last revised in November 2004.

Table 1-5

## Net farm income — Agriculture economic statistics, 2003 to 2004

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
	'000 of dollars										
<b>2003</b>											
+Total cash receipts	81,601	354,459	424,766	407,813	5,969,542	8,483,756	3,569,800	5,813,647	7,068,948	2,283,440	34,457,751
-Operating expenses after rebates	78,492	319,220	382,086	365,742	4,895,749	7,370,519	3,060,380	4,997,744	6,320,028	1,952,852	29,742,805
=Net cash income	3,109	35,239	42,680	42,071	1,073,793	1,113,237	509,420	815,903	748,920	330,588	4,714,946
+Income in kind	476	1,388	2,558	2,476	43,693	39,222	8,413	11,100	14,646	6,555	130,531
-Depreciation charges	5,509	36,110	50,574	42,637	603,296	1,101,508	412,187	912,655	1,131,119	255,585	4,551,180
=Realized net income	-1,924	517	-5,336	1,910	514,190	50,951	105,646	-85,652	-367,553	81,558	294,297
+Value of inventory change <sup>1</sup>	62	-1,785	550	-1,646	120,763	76,493	401,370	868,676	920,410	40,777	2,425,670
= <b>Total net income</b>	<b>-1,862</b>	<b>-1,268</b>	<b>-4,786</b>	<b>264</b>	<b>634,953</b>	<b>127,444</b>	<b>507,016</b>	<b>783,024</b>	<b>552,857</b>	<b>122,335</b>	<b>2,719,967</b>
<b>2004</b>											
+Total cash receipts	86,154	348,253	451,350	419,149	6,307,439	8,634,261	3,906,885	5,943,604	8,043,379	2,402,599	36,543,064
-Operating expenses after rebates	80,913	328,909	390,572	375,631	5,009,887	7,520,163	3,145,427	5,089,408	6,314,817	1,951,081	30,206,808
=Net cash income	5,241	19,344	60,778	43,518	1,297,552	1,114,098	761,458	854,196	1,728,562	451,518	6,336,256
+Income in kind	432	1,304	2,504	2,422	44,400	44,067	9,033	12,838	16,363	7,415	140,790
-Depreciation charges	5,800	38,139	51,779	43,879	582,106	1,076,446	402,990	920,884	1,109,701	260,062	4,491,786
=Realized net income	-127	-17,491	11,503	2,061	759,846	81,719	367,501	-53,850	635,224	198,871	1,985,260
+Value of inventory change <sup>1</sup>	101	2,494	624	-15,960	118,376	193,215	-60,161	811,571	510,626	-30,635	1,530,251
= <b>Total net income</b>	<b>-26</b>	<b>-14,997</b>	<b>12,127</b>	<b>-13,899</b>	<b>878,222</b>	<b>274,934</b>	<b>307,340</b>	<b>757,721</b>	<b>1,145,850</b>	<b>168,236</b>	<b>3,515,511</b>

1. Valuing the on-farm inventories of livestock has proven challenging since May 2003 when trade restrictions imposed as a result of bovine spongiform encephalopathy (BSE) created uncertainty in all livestock markets. Please use this series with caution.

**Note:** The data in this table were last revised on May 2005.

## General information

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This publication is part of a series of bulletins that also includes:

21-007-X	Farm product price index
21-011-X	Farm cash receipts - Agriculture economic statistics
21-012-X	Farm operating expenses and depreciation charges - Agriculture economic statistics
21-013-X	Value of farm capital - Agriculture economic statistics
21-014-X	Farm debt outstanding - Agriculture economic statistics
21-015-X	Direct payments to agriculture producers - Agriculture economic statistics
21-016-X	Balance sheet of the agricultural sector - Agriculture economic statistics
21-017-X	Agriculture value added account - Agriculture economic statistics
21-018-X	Farm business cash flows - Agriculture economic statistics

This publication presents annual estimates of net farm income and its components starting from 1981. Data highlights are provided for the most current year.

All series can be obtained free on the internet at the Statistics Canada web site ([www.statcan.ca](http://www.statcan.ca)). Notes on concepts and methods are also included for each data series.

Data from 1926 to 1980 inclusive are available in the November 2004 publication of **Net farm income – Agriculture economic statistics**, catalogue no. 21-014-X, vol. 3, no. 2.

The electronic publication is first available in May. It includes preliminary estimates for the calendar year just ended. The following November, the publication is re-issued with revisions to the preliminary estimates. Revisions to the May issue can extend back two years, while those in November generally apply to three years. The date provided at the bottom of each table is the last time that a revision was made to that table.

Most data appearing in this publication are available through the Canadian Socio-Economic Information Management System (CANSIM), Statistics Canada's corporate computerized data base network and information retrieval service.

Statistics Canada is committed to ensuring that there is no disclosure of confidential material and therefore all data are subjected to restrictions prior to release.

## Concepts and methods

In addition to administrative data, there are three main sources (Census of Agriculture, Taxation Data Program and Farm Financial Survey) whose data contribute to several of the series found in this publication. Following is a brief overview of these surveys, and a summary of the methods used to reduce errors in each. Copies of any of the survey questionnaires may be obtained by contacting Farm Income and Prices Section (FIPS).

Prior to 1991, the National Farm Survey (NFS) was a major source of data, providing the results of an annual probability survey, with a sample size of 50,000. Detail on concepts, survey methodology and data quality of the NFS are available by contacting Farm Income and Prices Section (FIPS).

The **Census of Agriculture** is a quinquennial survey of all Canadian agricultural holdings, including institutional farms, research stations, community pastures and Indian Reserves.

Procedures for collecting complete and accurate information are developed and improved for each Census of Agriculture. To ensure that the data are of consistently high quality, control procedures are incorporated into each census collection and processing stage.



Some farming operations are missed, however, primarily due to the difficulty in identifying an agricultural holding when no operators live on or near the holding. Certain questionnaires are only partially completed, or not completed at all. Missing responses are obtained through follow up with respondents, or are estimated by employing an automated imputation procedure which assigns values selected from similar agricultural operations. Respondents occasionally provide inaccurate responses. Where such responses have a large impact on the estimate they are corrected or confirmed by contacting the respondents. Computerized checks identify processing errors related to keying entries, or omissions which occurred during manual processes. After processing, the data are validated by comparing them thoroughly with other survey results and administrative data. Technical information on concepts, survey methodology and data quality for the **2001 Census of Agriculture**, catalogue no. 95F0302-X, is available on the website at [www.statcan.ca/stcpubs/english/95F0302XIE/01002/quality.htm](http://www.statcan.ca/stcpubs/english/95F0302XIE/01002/quality.htm).

The Census of Agriculture is often used as a "benchmark" and a source from which to draw samples. The benchmarking process involves using Census estimates each fifth year, and aligning the interim year's receipt and expense data with the results of the Census of Agriculture. The difference between the previously published estimate and the Census benchmark is calculated and distributed over the four preceding years. This intercensal revision procedure is undertaken for many of the series in this publication, including farm cash receipts and operating expenses whose data then feeds into other accounts published here, such as the net farm income. Intercensal revisions incorporating the 2001 Census data were released in November 2003.

The **Taxation Data Program** (TDP) involves a sample of approximately 180,000 Canada Revenue Agency (CRA) income tax records. The sampling frame covers all provinces and includes all individuals who claim either positive gross farm income, or non-zero net farm income. Research stations, institutional farms, and Indian Reserves are excluded. The sampling frame includes all corporations which report minimum sales of \$25,000, for which 50% or more of their sales come from agricultural activities.

Records for approximately 95% of the sample are received and raising factors are adjusted where the sample is incomplete. Basic edit checks are performed at the data capture stage and subsequent editing identifies errors, inconsistencies, extreme values, etc. As a final check, the top 25 tax filers (records which contribute the most for each income and expense item), at the provincial level, are analysed further. A process of donor imputation, using similar tax filer records, is applied in cases where tax filers fail to itemize all (or part) of their revenues or expenses. Total revenue and expense items for farms are estimated by inflating each sampled item by an estimation weight.

The processing procedures described above help minimize the occurrence of non-sampling errors (such as errors introduced during editing, and response errors) but some errors are outside Statistics Canada's control, including the fact that Canada Revenue Agency (CRA) tax forms are designed for tax purposes and not survey purposes. Since TDP estimates are based on a sample rather than the total population, they are subject to sampling errors. The potential error introduced by sampling can be estimated from the sample itself by using a statistical measure called the standard error. Over repeated surveys, 95 times out of 100, the relative difference between a sample estimate and what would have been obtained from an enumeration of all operations would be less than twice the coefficient of variation. This range of values is referred to as the confidence interval. While published estimates may not exactly equal the level indicators (due to the validation and consultation process), these estimates do remain within the confidence interval of the survey level indicators. The 1997 TDP survey had a coefficient of variation range of 0.5% to 1.7% for total operating revenues and expenses. Tables of standard error or coefficients of variation are available by contacting The Client Services and Marketing Unit, Agriculture Division, Statistics Canada at 1 (800) 465-1991 or by email at [agriculture@statcan.ca](mailto:agriculture@statcan.ca).

The quality of the TDP estimates is affected by certain limitations. Firstly the information is not collected from a standard questionnaire, but from different types of statements of income and expenses. Secondly, under the Income Tax Act, tax filers can report either on a cash or an accrual basis.

The imputation of missing values may affect the accuracy of tabulations. Further documentation concerning concepts, data reliability, limitations or the methodology of this survey is available by consulting **Economic Overview of Farm Incomes**, catalogue no. 21-005-X.

Prior to the Farm Financial Survey (FFS), **Farm Credit Canada** had conducted surveys (reference years 1981, 1984, 1987, 1989, and 1991) dealing with the financial structure of Canadian agriculture. This was

a joint project of Farm Credit Canada (management, collection and processing personnel), Agriculture and Agri-Food Canada (financial support, collection and processing personnel), and Statistics Canada (survey and questionnaire design, processing and analysis of data). The structure of the FCC Farm Survey evolved over time, with the 1991 version having a Census-based sample of 12,000 farms with sales of over \$2000. These excluded institutional farms, farms on Indian Reserves, community pastures, farms in marginal areas and farms that were part of large multi-holding companies. A smaller area frame, based on the National Farm Survey area frame, was also used, in order to include entrants into agriculture since the previous Census.

In 1992, the FCC Farm Survey was replaced by the Farm Financial Survey (FFS), conducted under contract with Agriculture and Agri-Food Canada. In 1993, the survey was conducted in Western Canada only, with financial data referring to 1992. A biennial, nation-wide FFS was initiated in 1994 (1993 reference year), and continued until 2002. An annual version of the FFS began in 2003 (2002 reference year).

As was the case for the FCC Survey, the FFS estimates are based on a sample rather than on the entire population, they were subject to sampling errors. The potential error introduced by sampling can be estimated from the sample itself by using a statistical measure called the standard error. The 2003 FFS had a coefficient of variation of 0.88% for total assets, and 1.54% for total liabilities. The usable responses (excludes total refusals, no contacts, and others) returned from this survey totalled 90% of the sample. Tables of standard error or coefficients of variation are available by contacting Whole Farm Data. Further documentation concerning concepts, data quality and reliability, limitations or the methodology of this survey is available by contacting The Client Services and Marketing Unit, Agriculture Division, Statistics Canada at 1 (800) 465-1991 or by email at [agriculture@statcan.ca](mailto:agriculture@statcan.ca).

For administrative data, in order to reduce error, assessments are made based on historical and current trends, subject matter expertise, and information obtained through discussion with industry authorities. Users should be aware that administrative data are generally compiled for an organization's own needs, and not for survey purposes. Any anomalies or inconsistencies detected are verified with the source, and where necessary, adjustments are made to reconcile data with the conceptual framework of our series. The administrative agencies used are considered to be the best sources available, and data received from them is judged to be of very good quality, even in those circumstances where adjustments have been made. In some instances component data may not add to the total. This is ordinarily due to rounding, and considered to be of minimal impact.

# Net farm income

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In this publication annual estimates of net farm income at the provincial and national levels are presented from 1981 to date. These estimates are on the CANSIM database.

Due to changes in the concepts and methods for the components of net income, estimates of net income before 1971 are not comparable with those from 1971 to date.

The notes on concepts and methods for each of the components of net farm income (farm cash receipts, farm operating expenses and depreciation charges, income in kind, and value of inventory change) should be read in conjunction with these notes.

The Agriculture Division of Statistics Canada also derives estimates of farm income from several other independent sources. The Farm Financial Survey (FFS), the Taxation Data Program and the Census of Agriculture each produce separate income estimates. The table below shows the differences between the data. **(The FFS did not produce estimates for the year 2000.)**

Example:

[Text table 1](#)

## Net cash income, Canada

	2000
	millions of dollars
Census of Agriculture	5,203
Taxation Data Project	5,832
Agriculture Economic Statistics	6,357

## Concepts

The farm income accounts are designed to provide an annual measure of income returned to the owners of agricultural businesses from the production of agricultural commodities. Two points should be noted:

1. These accounts only relate to the farm business. They do not include any income that farm operators or their families may receive from other sources (wages and salaries, investment income, etc.).
2. The accounts pertain only to the production and marketing of agricultural commodities. Revenue or expenses related to the sale or purchase of farm capital (real estate, machinery and equipment) are not included. Currently, the accounts include the sale of any production from farm woodlots, but exclude any income earned from activities such as fish farming or the non-agricultural use of the farm.

## Methods and data quality

Three measures of net farm income at the provincial and national levels have been estimated for the years 1971 to date:

- (a) **Net cash income** of farm businesses is derived by subtracting operating expenses from farm cash receipts. It represents the amount of cash generated by the farm business that is available for debt repayment, investment or withdrawal by the owner.

- (b) **Realized net income** of farm businesses starts with net cash income. It is derived by subtracting depreciation (economic concept) and adding income in kind to net cash income. It represents the financial flows, both cash and non-cash, attributable to the farm businesses, similar to an income statement. It represents the net income from transactions in a given year in that it includes the sale of commodities regardless of the year they were produced. Realized net income does not account for stock changes (value of inventory change).
- (c) **Total net income** is net cash income adjusted for the value of inventory change, depreciation (economic concept) and income in kind. It represents the return to owner's equity, unpaid labour, management and risk. Total net income accounts for agriculture economic production during the year that the agricultural goods were produced.

As a result of the residual method used to derive net income, a minor change in either farm cash receipts or farm operating expenses will have a significant impact on the net income level and yearly change. The following diagram illustrates this point.

Text table 2

**Impact of revisions on total net income**

	Original data	Revised data	Variation in percentage
Cash Receipts	60,000	60,600	= +1
- Operating expenses	45,000	44,550	= -1
= Net cash income	15,000	16,050	= 7
+ Income In kind	500	500	
- Depreciation	2,000	2,000	
= Realized net income	13,500	14,550	= 8
+ Value of inventory change	500	500	
= <b>Total net income</b>	<b>14,000</b>	<b>15,050</b>	<b>= 8</b>

In this example, a 1% change in either cash receipts or operating expenses would have resulted in a 4 to 5% change in any of the net farm income estimates, and a 1% change in both results in an 8% change to the total net income.

## Farm cash receipts

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This publication presents farm cash receipts by commodity and by calendar year from 1981 to date for every province. Data are available through the CANSIM database on a quarterly basis for the period 1971 to date.

### Concepts

Farm cash receipts measure 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.

The farm cash receipts series includes agricultural products such as field crops, vegetables, fruits, floriculture and nursery products, maple and forest products, livestock, dairy products, poultry, eggs, wool, fur, and honey.

The direct program payments to producers included in farm cash receipts represent the amounts paid under various **government** and **private** programs to individuals involved in agricultural production. The payments related to current agricultural production include subsidies to encourage production or to compensate producers for low market returns, payments to stabilize incomes and payments to compensate producers for crop or livestock losses caused by extreme climatic conditions, disease or other reasons.

The primary reason for compiling farm cash receipts is to estimate, on a provincial basis, the agriculture sector's contribution to gross domestic product. Consequently, all inter-farm sales within a province are excluded from farm cash receipts estimates as their inclusion would result in double counting. It should be noted, however, that farm-to-farm sales between provinces are included as are all sales outside the sector. Excluding inter-farm sales within a province means that farm cash receipts cannot be used as a measure of the gross output of the agriculture sector.

Farm cash receipts are estimated on a cash basis and represent the value of sales when they occur, that is, when ownership first changes hands. Thus, sales are only recorded when cash disbursements have actually occurred. The prices used to value transactions include any bonuses and premiums which can be attributed to specific commodities, but exclude fees deducted before the producer is paid (e.g. storage, transportation, marketing or administrative costs).

In several cases, particularly where crops are concerned, producers receive a partial or an initial payment for their commodities at the time of sale. As the marketing of the crop progresses, an adjustment or final payment is made. These payments are only shown in cash receipts when producers receive the funds. Examples of such cases include Ontario Wheat Producers' Marketing Board (OWPMB) and Canadian Wheat Board (CWB) adjustment, interim and/or final payments for wheat, oats and barley. Oats ceased to be marketed through the CWB on July 31, 1989. Similar payment patterns also occur for sugar beets and dry beans.

Receipts from the sale of some agricultural products can be deferred. For example, producers in Western Canada have the option of deferring grain receipts to the next year. In the past, Statistics Canada used the assumption that payments ("liquidations") of deferred grain and oilseed receipts ("deferments") from the crops sold in one calendar year were all received in January of the following year. After conducting an examination of records provided by elevators, it was established that it was true for 90 to 95% of the cases. The series were revised accordingly, starting with 1998 data, to record more accurately in which month the liquidations occurred.

All published commodity receipts represent receipts from the market. Thus, any subsidy or stabilization payment directed at a specific commodity is not included in the receipts for that commodity. In fact, all direct subsidies or payments to the agriculture sector are recorded separately.

## Methods

Cash receipts are, for the most part, based on monthly marketings and prices of the various commodities. Direct program payments are based on data obtained from several sources on a monthly or quarterly basis.

Calculations of commodity cash receipts involve the use of many data sources which can vary by province and by commodity. Most of the prices for the monthly marketings are collected from administrative sources such as marketing boards, regulatory agencies and market information. Some prices are also provided by a monthly farm prices survey conducted by Statistics Canada. In all cases, the prices reflect those received by producers at the point when ownership first changes hands.

Monthly marketings are mostly obtained from administrative records of marketing boards, government agencies and private companies. Grain marketings, including durum wheat, wheat excluding durum, oats, barley, rye, flaxseed and canola for the Western provinces, are obtained from the Canadian Grain Commission. In Eastern Canada, the data are either obtained from marketing boards and producer associations, based on historical marketing patterns or agreed upon in consultation with provincial specialists.

Marketings for crops such as corn, soybeans, tobacco, sugar beets and dry beans are obtained from marketing boards and associations as well as private companies.

Cash receipts estimates for potatoes, fruits, vegetables, honey, maple and forest products, and greenhouse and nursery products are obtained through various surveys or censuses conducted by Statistics Canada, the provinces or other federal and provincial departments or agencies. These departments and agencies are also a major source of marketing data for mustard seed, sunflower seed, lentils, canary seed, dry peas, forage and grass seed, and hay and clover.

Livestock marketings, including cattle, calves, hogs, sheep, lambs, hens and chickens, and turkeys, are mainly based on market information from Agriculture and Agri-Food Canada and provincial departments and agencies. Marketings of eggs are also obtained from these sources. In the case of dairy products, producers' marketings of milk and cream are obtained from regulatory agencies and private companies.

Although the farm cash receipts series covers many commodities, it is not exhaustive. There is a miscellaneous category for crops and another for livestock. The cash receipts in these two categories are based on the quinquennial Census of Agriculture in order to account for commodities that are not estimated individually.

Since cash receipts are estimated on a cash basis, any amounts received after the sale of a product, whether in the form of a final or an adjustment payment, will be shown when the cash is received rather than when it was earned. Several items fall into this category, including payments by the CWB and the OWPMB, as well as deferments and liquidations of grain receipts. The information for these payments are obtained directly from the administrative bodies involved.

Direct program payments are tabulated quarterly. The agencies responsible for the disbursement of payments under the various programs provide the data on a monthly, quarterly and, in some cases, an annual basis. Only payments directly provided to producers are included in the series. These include payments under the *Farm Income Protection Act* (for the Gross Revenue Insurance Plan and the Net Income Stabilization Account), the *Crop Insurance Act*, the *Western Grain Stabilization Act*, the *Agricultural Stabilization Act*, Tripartite Plans, Provincial Stabilization Programs, the *Canadian Dairy Commission Act* and those made under ad hoc government programs.

Payments made under private programs such as private hail insurance and livestock insurance are included in the **Farm Cash Receipts** series under the categories "Private hail insurance payments" and "Other payments", respectively. In the publication **Direct payments to agriculture producers – Agriculture economic statistics**, catalogue no. 21-015-X, "Crop insurance payments" and "Other payments" do not include private program payments.

## Data comparability

Two new commodities were added to farm cash receipts effective January 1997 under the new North American Industry Classification System (NAICS): Christmas trees and poultry hatcheries. With poultry hatcheries becoming part of the agriculture sector:

- Inter-provincial sales and exports of chicks and poults are included in poultry hatchery receipts.
- Eggs sold to hatcheries in the same province are now considered as inter-farm sales and were removed from egg receipts.
- Inter-provincial sales and exports of eggs sold for hatching are still included in egg receipts along with receipts for table eggs.

As of the June 1999 intercensal revision, horse receipts are estimated using slaughter data from the Canadian Food Inspection Agency combined with international exports of slaughter horses.

## Data quality

As indicated above, farm cash receipts are estimated using both administrative and survey sources of data. Where necessary, data are adjusted to ensure conceptual consistency with the receipts series. Much of the data obtained from administrative sources have been summarized from the financial transactions of individual producers. These summarized data are often subject to audit by independent professional accountants and/or are used to make payments to individual producers. As a result, the quality of these data is considered to be very good. The survey data used in the receipts series reflect typical Statistics Canada standards for quality assurance and, therefore, the quality of these data is considered to be good.

However, it is important to note that the receipts data are subject to error. Administrative data may contain non-sampling error such as keying mistakes, while survey data may suffer from both non-sampling and sampling error. Users should also note that the quality of individual estimates may not be consistent between commodities or between provinces because the data sources and their quality may vary. As well, the estimates of inter-farm sales between provinces are not strong as there are few sources for these data.

More detail on the quality of the crops and livestock data that are used to estimate farm cash receipts can be found in the following Statistics Canada publications.

1. Field Crop Reporting Series,	Catalogue no. 22-002-X
2. Cereals and Oilseeds Review,	Catalogue no. 22-007-X
3. Canadian Potato Production,	Catalogue no. 22-008-X
4. Fruit and Vegetable Production,	Catalogue no. 22-003-X
5. Greenhouse, Sod and Nursery Industries,	Catalogue no. 22-202-X
6. Production and Value of Honey and Maple Products,	Catalogue no. 23-221-X
7. Hog Statistics,	Catalogue no. 23-010-X
8. Sheep Statistics,	Catalogue no. 23-011-X
9. Cattle Statistics,	Catalogue no. 23-012-X
10. The Dairy Review,	Catalogue no. 23-001-X
11. Production of Poultry and Eggs,	Catalogue no. 23-202-X
12. Farm Product Price Index,	Catalogue no. 21-007-X

## Data revisions

Annual farm cash receipts data are published twice each year, at the end of May and at the end of November. In May, receipts for the previous two calendar years are subject to revision. In November, receipts for the previous three years may be revised. Every five years a historical revision is done based on the results of the Census of Agriculture. The results of the latest intercensal revision, based on the 2001 Census of Agriculture, have been included with the **November 2003** publication, catalogue no. 21-010-X, vol.2, no.2, and apply to the period 1991 to 2002.

An indication of the expected size of revisions to farm cash receipts can be provided by a statistic known as Theil's Root Mean Square Prediction Error (RMSPE). This statistic represents the average percent difference between the initial and current estimates during the period in question. For example, the table below indicates that, from 1993 to 2002, total farm cash receipts at the Canada level have so far been revised, either up or down, by about 1.5% from the first published estimate.

### Text table 1

#### Root mean square prediction error (RMSPE)

	1994-2003
	percent
<b>Total Receipts</b>	1.4
Crop receipts	1.7
Livestock receipts	1.2
Payments	10.4

Further information on Theil's RMSPE is available from **A Description of Theil's RMSPE Method in Agricultural Statistical Forecasts**, Stuart Pursey, Working Paper #1, Agriculture Division, Statistics Canada, 1980.



# Income in kind

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Annual income in kind estimates, at an aggregate level, are available in this publication in the net income tables. They are presented by province for the period 1981 to date. Estimates by commodity are available on the CANSIM database.

## Concepts

The income in kind series measures the value of agricultural commodities produced on farms and consumed by individuals living on these farm operations. The home-consumed products are valued at prevailing market prices such that income in kind represents the receipts producers would have received had the product been sold rather than consumed. Agricultural products that are used as inputs in the production of other agricultural products, such as grain fed to livestock, are not considered as income in kind because they form part of the value of the final product.

Agricultural commodities included in the income in kind series are dairy products, cattle, calves, hogs, lambs, hens and chickens, turkeys, eggs, potatoes, vegetables, fruits, maple products, honey, wool and forest products.

## Methods

Income in kind estimates are derived using three different methods, depending on the commodity. For maple products and wool, estimates of the quantities consumed by farm operators and their families are obtained through surveys.

Estimates of quantities consumed for the other commodities (dairy products, cattle, calves, hogs, sheep, lambs, hens and chickens, turkeys, eggs, potatoes, vegetables, fruits and honey) are based on the number of farm operations producing the item, their average farm family size and the average annual Canadian consumption of the commodity.

Beginning in 1986, a new method for calculating income in kind was used for meat products (beef, veal, pork and lambs). Income in kind for the above listed livestock is derived from the “killed and eaten on the farm” estimates published in the **Livestock Statistics**, catalogue no. 23-010-X, 23-011-X, 23-012-X, multiplied by the annual average slaughter prices.

As of 1986, income in kind for forest products are based on the number of farm households, annual consumption of wood cords per farm and the average annual price.

Once the quantities of the farm products consumed by producers and their families have been established, they are valued at weighted average market prices received for the product during the year from the farm cash receipts series.

## Data comparability

The preceding documentation is relevant for the period 1986 to date for meat and forest products and 1981 to date for the other commodities.

## Data quality

Estimates of the value of income in kind are prepared using a combination of surveys, Census and administrative data. These data reflect typical Statistics Canada standards for quality assurance and, therefore, their quality is considered to be good. However, since little information on the consumption patterns of farm families exists, it is

not possible to objectively validate the income in kind estimates. As a result, these estimates cannot be considered to be of high quality. Furthermore, they are subject to the general sampling and non-sampling errors present in all types of survey and administrative data.

More detail on the quality of the data that are used to estimate income in kind can be found in the following Statistics Canada publications.

- |  |                        |
|--|------------------------|
| 1. The Dairy Review,                                 | Catalogue no. 23-001-X |
| 2. Livestock Statistics,                             | Catalogue no. 23-603-X |
| 3. Production of Poultry and Eggs,                   | Catalogue no. 23-202-X |
| 4. Canadian Potato Production,                       | Catalogue no. 22-008-X |
| 5. Fruit and Vegetable Production,                   | Catalogue no. 22-003-X |
| 6. Canada Food Statistics,                           | Catalogue no. 21-020-X |
| 7. Production and Value of Honey and Maple Products, | Catalogue no. 23-221-X |
| 8. Farm Product Price Index,                         | Catalogue no. 21-007-X |

## Data revisions

Annual estimates of income in kind are published twice each year, at the end of May and at the end of November. In May, data for the previous two calendar years are subject to revision. In November, data for the previous three years may be revised. Every five years a historical revision is done based on the results of the Census of Agriculture. The results of the latest intercensal revision, based on the 2001 Census of Agriculture, have been included with the **November 2003** publication, catalogue no. 21-010-X, vol.2, no.2, and apply to the period 1991 to 2002.

An indication of the expected size of revisions to income in kind can be provided by a statistic known as Theil's Root Mean Square Prediction Error (RMSPE). This statistic represents the average percent difference between the initial and current estimates during the period in question. For example, from 1994 to 2003, the total value of income in kind at the Canada level has so far been revised, either up or down, by 28.3% from the first published estimate. This result was mainly due to the change of method for calculating income in kind for meat and forest products. Prior to the June 1999 revision, RMSPE from 1988 to 1997 was estimated at 3.0%.

Further information on Theil's RMSPE is available from **A Description of Theil's RMSPE Method in Agricultural Statistical Forecasts**, Stuart Pursey, Working Paper #1, Agriculture Division, Statistics Canada, 1980.

## Value of inventory change

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This publication presents annual estimates of the aggregate value of inventory change from 1981 to date in the net income tables. The data series, by item, are available on the CANSIM database by province for the period 1951 to date.

### Concepts

The value of inventory change measures the value of the change in producer-owned inventories between the beginning and the end of the calendar year. The annual value of inventory change (whether positive or negative), along with farm cash receipts and income in kind, represents the gross value of agricultural production.

Many agricultural commodities, particularly grains, are produced in a given year and stored or held until they are marketed as long as two years later. In years of above-average production, farm inventories tend to be built up, only to be drawn down and sold when production returns to average or below-average levels.

Receipts from the sale of grains can be deferred and then cashed or liquidated in the next year. As a result of the methods used to derive grain receipts, an adjustment is made to the value of inventory change. The adjustment is required in order to avoid double counting in the value of inventory change series.

The value of inventory change is estimated for durum wheat, wheat except durum, oats, barley, rye, corn, flaxseed, solin, canola, soybeans, potatoes, tobacco, mustard seed, sunflower seed, lentils, canary seed, dry peas, cattle, calves, sheep and lambs, hogs, hens and chickens, and turkeys. Deferred grain receipts and liquidations of deferred grain receipts, as mentioned above, are also included.

### Methods

The value of inventory change series is an estimate of the value of the change in producer-held inventories of agricultural products during a calendar year. The physical change in inventories is valued at weighted average annual market prices in the case of crops and at simple average annual prices for livestock commodities. This simple average is based on the value per animal at January 1, July 1 and December 31 of each year.

In the case of crops, supply and disposition balance sheets are used to establish the beginning and ending inventories on a calendar year basis. Inventories at the end of each crop year and production levels for each crop are based on producer surveys. Monthly disposition items, including marketings, home consumption, feed, waste and dockage, and seed use, are obtained from various sources.

Physical inventory levels at calendar year-end are established for each crop by adding estimates of crop year beginning inventories to estimates of production and then deducting estimates of monthly disposition.

Physical inventory levels for livestock items are established from the quinquennial Census of Agriculture. Between Censuses, semi-annual producer surveys are used to derive inventory levels.

As explained above, the value of inventory change is adjusted to take into account the deferment and liquidation of grain receipts. This adjustment consists of adding to the value of inventory change an amount equal to that shown for deferred grain receipts. Similarly, an amount equal to the value of liquidations is deducted from the value of inventory change.

## Data quality

Estimates of the value of inventory change are prepared using both administrative and survey data. These data reflect typical Statistics Canada standards for quality assurance and, therefore, their quality is considered to be good. However, it is important to note that these data are subject to the general sampling and non-sampling errors present in all types of survey and administrative data.

Estimates of the value of inventory change can also be very volatile. Inventory change can be either positive or negative, depending on whether inventories have increased or decreased. Revisions to any of the supply or disposition items will have a direct effect on inventory levels, and even small revisions could change the sign on inventory change. Furthermore, calendar year inventory levels are often derived residually. As a result, the value of inventory change series is very sensitive and often subject to substantial revision.

Valuing the on-farm inventories of livestock has proven challenging since May 2003 when trade restrictions imposed as a result of bovine spongiform encephalopathy (BSE) created uncertainty in all livestock markets. Please use this series with caution.

More detail on the quality of the data that are used to estimate the value of inventory change can be found in the following Statistics Canada publications.

1. Field Crop Reporting Series, Catalogue no. 22-002-X
2. Grain Trade of Canada, Catalogue no. 22-201-X
3. Cereals and Oilseeds Review, Catalogue no. 22-007-X
4. Canadian Potato Production, Catalogue no. 22-008-X
5. Livestock Statistics, Catalogue no. 23-603-X
6. Production of Poultry and Eggs, Catalogue no. 23-202-X
7. Farm Product Price Index, Catalogue no. 21-007-X

## Data revisions

Annual estimates of the value of inventory change are published twice each year, at the end of May and at the end of November. In May, data for the previous two calendar years are subject to revision. In November, data for the previous three years may be revised. Every five years a historical revision is done based on the results of the Census of Agriculture. The results of the latest intercensal revision, based on the 2001 Census of Agriculture, have been included with the **November 2003** publication, catalogue no. 21-010-X, vol.2, no.2, and apply to the period 1991 to 2002.

An indication of the expected size of revisions to the value of inventory change can be provided by a statistic known as Theil's Root Mean Square Prediction Error (RMSPE). This statistic represents the average percent difference between the initial and current estimates during the period in question. For example, the table below indicates that, from 1994 to 2003, the value of inventory change at the Canada level has so far been revised, either up or down, by 55.5% from the first published estimate.

Further information on Theil's RMSPE is available from **A Description of Theil's RMSPE Method in Agricultural Statistical Forecasts**, Stuart Pursey, Working Paper #1, Agriculture Division, Statistics Canada, 1980.

## Farm operating expenses

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National and provincial level estimates of farm operating expenses and depreciation charges from 1981 to date are included in this publication. Data by type of expense can be found in the publication **Farm operating expenses - Agriculture economic statistics**, catalogue no. 21-012-X. Gross expenses, net expenses and rebates are available on CANSIM.

Preliminary estimates of a calendar year are published in May of the following year (i.e. five months after the end of the reference year). The November issue revises these estimates to incorporate data received too late to be included in the first release, data revisions received from administrative source agencies, and to incorporate estimates from the Taxation Data Program (TDP), based on 60 to 90% of the sample. Updates based on the 100% TDP sample are incorporated into the issue released the following May (i.e. 17 months after the end of the reference year).

### Concepts

Estimates of farm operating expenses represent business costs incurred by farm operators for goods and services used in the production of agricultural commodities. All expense information is on a calendar year basis. If direct rebates are paid to farmers to reduce the cost of particular inputs, then the net expense estimates are used in the preparation of net income, although both gross and net expenses may be displayed. As the objective is to produce provincial estimates of net income, flows from one farm to another are excluded from the estimates. The province can be viewed as one large farm.

### Methods and data quality

Preliminary estimates of each farm operating expense except interest, irrigation, livestock and poultry purchases, crop and hail insurance, and stabilization premiums are obtained by applying price and quantity indicators to the previous year's final estimates. Prior to 1991, most of the final estimates of farm operating expenses came from the National Farm Survey (NFS) and a sample of farmers' income tax records for unincorporated farms outside of the Prairies. From 1991 to date, the Taxation Data Program (TDP) is the main data source. The first set of estimates, based on a 60 to 90% TDP sample, is published in the November issue of the following year. Estimates based on the complete TDP sample are published in the May issue, 17 months after the end of the reference year.

In summary, during non-intercensal review periods, revisions are within 1 to 2% of the original estimate, and may cover three years preceding the reference year for the November issue, and two years for the May release.

Revisions are also incorporated into this series after the results of each Census of Agriculture have been reviewed. Concepts, methods and format may also be changed at this time, to provide a historical time series which is methodologically and conceptually consistent. The most recent intercensal reviews have resulted in revisions to the estimate of total gross farm operating expenses, at the Canada level, of 1.6%. Detailed results of the most recent revisions based on the 2001 Census of Agriculture are included in the **November 2003** publication, catalogue no. 21-010-X, vol. 2, no. 2.

To obtain detailed technical information on the data quality of the Taxation Data Program, whose estimates form the base of this series, users can refer either to the introduction page or to **Economic Overview of Farm Incomes**, catalogue no. 21-005-X.

For the other expense items (interest, irrigation, livestock and poultry purchases, crop and hail insurance, and stabilization premiums), preliminary estimates of the previous calendar year are published in the May Agriculture Economic Statistics (AES) and includes all data received from source agencies or Statistics Canada sources at the time of release. The November issue revises these to incorporate changes made by the source agencies, and to accommodate data received too late to be included in the first release.

# Depreciation charges

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## Concepts

Depreciation charges against the farm business are intended to account for economic depreciation or the loss in fair market value of the capital assets. Generally, depreciation is considered to occur as a result of ageing, wear and tear, and obsolescence. It represents the value of capital which is no longer available for future use. Economic depreciation should not be confused with accounting depreciation, tax depreciation, or capacity depreciation.

Building depreciation estimates the depreciation of farm buildings on owner-occupied farms, including the farm business share of houses. The charge for building depreciation on tenant-occupied farms is assumed to be included in the cost of cash or share rent. Machinery depreciation estimates the depreciation of the farm business share of autos and trucks and the depreciation of other machinery, which are owned by the farm business. Autos, trucks and machinery, which the farmer leases, are not depreciated.

## Methods and data quality

The depreciation on farm buildings is based on the value of farm land and buildings. Provincial owner-occupied proportions are derived from the Census of Agriculture estimates of land tenure. The proportions of houses and other buildings to land are derived from the special 1958 Farm Income and Expenditure Survey, with some adjustments prior to 1984 to account for changes in the proportions over time. The business share of the house was based on tax allowances and expert opinion. These proportions are used to derive the owner-occupied farm business share of the value of farm houses and other buildings. Depreciation is calculated using the declining balance method where the appropriate capital value is multiplied by the depreciation rate. The depreciation rate is 2% for farm houses and 5% for other buildings. It would take 80 and 31 years, respectively, to depreciate 80% of the value from any particular year, using the declining balance method.

Depreciation of autos, trucks and other farm machinery are based on their respective capital value series, using the declining balance method. Depreciation rates vary by province, but range between 9% and 17%. It would take approximately 17 and 9 years, respectively, to depreciate 80% of the value from any particular year, using this method. Only the farm business portion of depreciation on autos or trucks is included. The business share of the autos and trucks was based on tax allowances and expert opinion.

An analysis of the quality of depreciation data was done in 1994. Weaknesses which were identified and remain unresolved include: the use of the change in value of farm land and buildings to estimate farm building depreciation; the use of a conceivably outdated 1958 survey as a benchmark; the omission of fencing as depreciable capital; and the use of indirect sources of information on the proportion of owned assets to total assets. A report on the results of this analysis was prepared and is available on request.

## Leasing of autos, trucks and farm machinery

Beginning in the early 1990's, the leasing of vehicles and farm machinery became increasingly common. That portion of the value of autos, trucks and farm machinery that was being leased by farmers was removed from the depreciation calculation.

# Net cash income comparision

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The **Net Farm Income - Agriculture Economic Statistics**, catalogue no. 21-010-X, net cash income estimates are the official Statistics Canada (STC) estimates. Other estimates of net cash income (farm cash receipts less operating expenses) produced by the Agriculture Division are from the Taxation Data Program (TDP), the Farm Financial Survey (FFS) and the Census of Agriculture (CEAG).

## 1. Sources

### a) Net Farm Income - Agriculture Economic Statistics (AES)

The official series of measures of net cash income are published in the AES electronic publication. The net cash income series measures the aggregate earnings of all agricultural businesses from the production of agricultural goods at the provincial and national level. Annual estimates are established from a wide variety of surveys and administrative data on crop and livestock production and inventories, quantity marketed, average farm prices, program payments, agricultural expenses and rebates. For some variables, Census of Agriculture, TDP and FFS estimates are used either as benchmarks or indicators of annual changes.

### b) Net Income Stabilization Account and Taxation Data Program (TDP)

The TDP estimates a range of financial variables, including revenue and expenses from a total sample of over 180,000 tax filer records which includes records from both incorporated and unincorporated operations. The TDP publishes annual average estimates by farm type, sales classes and sub-provincial regions.

The TDP publishes information representing all individual tax filers who reported total farm operating revenues of \$10,000 or more on their income tax return and agricultural corporations reporting total farm operating revenues of \$25,000 and over, and for which 50% or more of their sales come from agricultural activities. Data on unincorporated farms reporting total operating revenues below \$10,000 is available as are estimates on incorporated farms with revenues less than \$25,000 but these are not included in the TDP publication because of the lower quality of these estimates.

### c) Farm Financial Survey (FFS)

The annual FFS is another source of financial information collected from a sample of about 18,000 farms. (This survey was biennial prior to the 2003 FFS.) The sample includes both incorporated and unincorporated farms with annual sales from agricultural activities exceeding \$10,000 (\$2,000 prior to 1998). This survey collects total gross receipts from program payments and the sales of agricultural products grouped by major categories (e.g., grains and oilseeds, horticulture) as well as total expenses (excluding depreciation) along with detail on crop, livestock and machinery expenses, interest expenses, wages, crop insurance and NISA contributions. The FFS program produces average estimates of primarily financial balance sheet items including details on income and expenses at the provincial level by sales class and farm type.

### d) Census of Agriculture (CEAG)

Every five years, the Census of Agriculture collects a wide variety of data, including total gross farm receipts and operating expenses by category, on all farm operations in Canada producing agricultural products with the intention of selling them. The Census of Agriculture publishes estimates of total gross farm receipts and operating expenses by farm type, sales classes and sub-provincial regions.



## 2. Conceptual differences

### a) Net Farm Income - Agriculture Economic Statistics (AES)

AES estimates include all agricultural businesses. These data are not available by farm type, sales classes, sub-provincial regions or at the micro level. Receipts and expenses are estimated by calendar year. They are recorded on a cash basis when the money is paid to or disbursed by the farmer.

AES receipts and expenses exclude: income earned from non-agricultural use of the farm (e.g., income from tourism activities on farm); income that farm operators or their families receive from other sources (e.g., wages and salaries from non agricultural activities, and investment income); revenue or expenses from the sale or purchase of farm capital (real estate, machinery and equipment), although the interest paid on these purchases is included as an expense; capital payments where funds do not relate to current production and transfer payments (such as training allowances) directed to individuals; unlike the TDP, FFS and Census of Agriculture, AES estimates exclude farm-to-farm transactions, unless they occur across provincial or national borders. Within a province, sales from one farm are considered an expense to another, thus offsetting each other.

### b) Taxation Data Program (TDP)

The TDP estimates represent all individual tax filers who reported total farm operating revenues of \$10,000 or more on their income tax return and agricultural corporations reporting total farm operating revenues of \$25,000 and over, and for which 50% or more of their sales come from agricultural activities.

Some non-farmers may be present on the TDP database (e.g., someone reporting farm income from a crop share agreement but not involved in a farming operation).

The estimates are published on a calendar year basis but no attempt is made to adjust data from agricultural corporations reporting data on a fiscal year that may not coincide with a calendar year.

The TDP "Total Operating Revenues" includes "Custom Work and Machine Rental" and "Rental Income" which are not included in the AES farm cash receipts. However, AES "Custom Work and Machine Rental" represent a "net" expense (the difference between custom work expenses and receipts). For example, earned income from custom work done by farmers outside their operation is deducted from the amount they paid to other custom work operators for other types of custom work done on their operation.

### c) Farm Financial Survey (FFS)

The sample includes both incorporated and unincorporated farms with annual sales from agricultural activities exceeding \$10,000 (\$2,000 prior to 1998). Like the TDP, no adjustment is made to agricultural corporations reporting data on a fiscal year that may not coincide with the calendar year period.

The FFS "Total Gross Farm Receipts" includes agricultural custom work receipts that are not directly accounted for in the AES farm cash receipts. The treatment of "custom work" is similar to the TDP.

### d) Census of Agriculture (CEAG)

The Census of Agriculture collects data from any farm operation producing agricultural products with the intention of selling them. Data are generally provided on a calendar year basis, or for a complete fiscal year.

Unlike the AES, Census of Agriculture data on receipts include dividends received from co-operatives, Goods and Service Tax (GST) refunds, custom work receipts, and rebates received.

## 3. Comparison of estimates

Conceptual and methodological differences and data collection methods can result in misleading comparisons between AES receipts or expenses series and total income or expenses derived from TDP, FFS or Census of

Agriculture data. The exclusion of farm-to-farm transactions within a province in the AES and their inclusion in the TDP, FFS and Census of Agriculture datasets is the main reason making the comparison difficult. However, net cash income estimates (farm cash receipts less operating expenses) are more directly comparable since, within a province, sales from one farm is an expense to another farm, thus offsetting each other.

As is the case with farm-to-farm sales, some receipt items not included in the AES receipt series would tend to cancel each other out when deriving net cash income estimates from the various sources. For example, the exclusion of custom work receipts in AES receipts is compensated to a large extent in the net income estimates by the use of a net custom work estimate (custom work expenses – custom work receipts) in the AES expense series. In a less precise manner, one could expect the TDP estimates for the components of “miscellaneous revenue” and “miscellaneous farm expenses” not included in the AES series to offset each other to some degree.

The TDP publishes average receipts and expenses only for farms reporting total farm operating revenues of \$10,000 or more on their income tax return and agricultural corporations reporting total farm operating revenues of \$25,000 and over, and for which 50% or more of their sales come from agricultural activities. For purposes of comparisons with the AES, estimations for the unincorporated farms reporting total operating revenues below \$10,000 are used internally in spite of the lower quality of these estimates.

## 4. Results

### Text table 1

#### Net cash income comparison — Total

	2000		
	AES <sup>1</sup>	TDP <sup>2</sup>	CEAG <sup>1</sup>
	'000 of dollars		
Newfoundland and Labrador	7,880	5,072	11,679
Prince Edward Island	40,652	54,493	59,435
Nova Scotia	84,609	66,295	84,906
New Brunswick	49,237	55,294	68,597
Quebec	1,194,091	1,054,434	1,078,490
Ontario	1,470,058	1,164,314	1,306,795
Manitoba	587,080	486,867	461,669
Saskatchewan	1,149,910	1,101,817	876,608
Alberta	1,405,524	1,260,792	1,018,061
British Columbia	368,072	238,346	236,847
<b>Canada</b>	<b>6,357,113</b>	<b>5,487,725</b>	<b>5,203,088</b>

1. The Agriculture economic statistics (AES) and the Census of agriculture (CEAG) cover all agricultural holdings. For comparison purposes, the Canada total is the sum of the provincial totals.
2. Adjusted to include unincorporated farms with total farm operating revenues lower than \$10,000. Does not include agricultural corporations with total operating revenues below \$25,000.

Text table 2

## Net cash income comparison — Absolute difference

	2000	
	(TDP - AES) <sup>1</sup>	(CEAG - AES) <sup>2</sup>
	'000 of dollars	
Newfoundland and Labrador	-2,808	3,799
Prince Edward Island	13,841	18,783
Nova Scotia	-18,314	297
New Brunswick	6,057	19,360
Quebec	-139,657	-115,601
Ontario	-305,744	-163,263
Manitoba	-100,213	-125,411
Saskatchewan	-48,093	-273,302
Alberta	-144,732	-387,463
British Columbia	-129,726	-131,225
<b>Canada</b>	<b>-869,388</b>	<b>-1,154,025</b>

Text table 3

## Net cash income comparison — Relative difference

	2000	
	(TDP <sup>1</sup> - AES / AES)	(CEAG <sup>2</sup> - AES / AES)
	percent	
Newfoundland and Labrador	-35.6	48.2
Prince Edward Island	34.0	46.2
Nova Scotia	-21.6	0.4
New Brunswick	12.3	39.3
Quebec	-11.7	-9.7
Ontario	-20.8	-11.1
Manitoba	-17.1	-21.4
Saskatchewan	-4.2	-23.8
Alberta	-10.3	-27.6
British Columbia	-35.2	-35.7
<b>Canada</b>	<b>-13.7</b>	<b>-18.2</b>

1. Taxation data program (TDP) minus the Agriculture economic statistics (AES) divided by the Agriculture economic statistics (AES).

2. Census of agriculture (CEAG) minus the Agriculture economic statistics (AES) divided by the Agriculture economic statistics (AES).

## 5. Conclusion

Comparing data collected for different purposes is not an easy task. It is extremely difficult to identify precisely what causes the discrepancies at the aggregate level. There will be always discrepancies due to differences in coverage, accounting methods and period, edit, imputation and estimation methods of the survey, census or administrative data. These differences are often compounded in an estimate, such as net cash income, that is measured residually. The intercensal revisions conducted after the release of the 2001 Census of Agriculture reduced the discrepancies with the TDP at the national level.

For more information about intercensal revisions, please refer to publication **Net farm income - Agriculture economic statistics**, catalogue no. 21-010-X, vol. 2, no. 2.

# Impact of using the North American Industry Classification System (NAICS)

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Statistics Canada has been using the 1980 Standard Industrial Classification system (SIC) for collecting, compiling and disseminating economic statistics on Canada's businesses. Beginning with the 1997 reference year, the North American Industry Classification System (NAICS), which includes hatcheries and farms with only Christmas trees in the agricultural sector, was introduced. The impact of this added less than 1% to farm cash receipt and total operating expenses.

## Changes to 1997 Farm Cash Receipts

Classification changes affected receipts for three commodities. Christmas trees were added as a new commodity using the National Forestry Database, Taxation Data Program, and the 1996 Census of Agriculture to derive estimates. Hatchery receipts were estimated using Agriculture and Agri-Food Canada data on interprovincial movements and exports of chicks and poults and prices from several sources. With hatcheries becoming part of the agricultural sector, receipts from the sales of eggs to hatcheries in the same province are now considered inter-farm sales and are removed from the estimate. Only sales to hatcheries outside of the province are counted.

Farm cash receipts were 0.2% lower as a result of the classification changes. The addition of Christmas tree and hatchery (chicks and poults) receipts was more that offset by the removal of inter-farm sales of hatching eggs.

Impact on Farm Cash Receipts:

- Christmas tree receipts: +\$58.5 million
- Hatchery receipts: +\$30.6 million
- Eggs for hatching receipts: -\$141.0 million
- Net impact: -\$51.9 million

## Changes to 1997 Farm Operating Expenses

Operating expenses (wages, fuel, electricity, etc.) of hatcheries and farm operations with only Christmas trees were added to the expenses. The bases for these estimates were the 1996 Census of Agriculture and the Taxation Data Program. With hatcheries becoming part of the agriculture sector, poultry purchase expenses fell. Intraprovincial purchases of both eggs by hatcheries and chicks by poultry and egg farms became interfarm purchases and were removed from the estimate. Data on interprovincial movements and imports of chicks and poults provided by Agriculture and Agri-Food Canada were used to remove these interfarm purchases.

These changes resulted in a 0.2% drop in operating expenses after rebates.

Impact on Farm Operating Expenses:

- additional operating expenses: +\$267.8 million
- changes to poultry purchases: -\$326.3 million
- Net impact: -\$58.5 million

## Changes to 1997 Net Cash Income

The overall impact of the inclusion of hatcheries and farms specializing in Christmas tree production increased net cash income by 0.1 %. The magnitude of the impact should not be interpreted as the sum of net cash income from hatcheries and farms with only Christmas tree operations. Many expense estimates are based on farm-level data from the Census of Agriculture and the Taxation Data Program. Due to the difficulty in identifying and removing expenses related to hatchery and Christmas tree production on farms that produce other commodities, some expenses associated with this production were already in the estimates prior to the introduction of NAICS. As well, some receipts from hatchery and operations with only Christmas trees (e.g., program payments, poultry and egg receipts in the case of integrated hatchery operations) will have already been included in the pre-NAICS data series.

Accordingly, in those provinces where the impact of implementing NAICS is negative, the inference should not be made that hatchery and operations with only Christmas trees are receiving negative cash flows. The negative impact is more likely a factor of more receipts than expenses being included in the SIC-based estimates.

## Other Changes

Based on capital value data from the 1996 Census of Agriculture, depreciation charges increased by less than 1% as a result of the introduction of NAICS.

Text table 1

### Impact of including NAICS on receipts, expenses and net cash income

	1997						
	Farm cash receipts			Farm operating expenses			Net cash income total change
	Receipts added	Interfarm sales (eggs for hatching)	Total change	Expenses added	Interfarm purchases (eggs and chicks)	Total change	
	'000 of dollars						
Atlantic provinces	22,371	-10,218	12,153	28,509	-13,313	15,196	-3,043
Quebec	32,114	-40,118	-8,004	89,166	-83,892	5,274	-13,278
Ontario	24,159	-42,450	-18,291	107,308	-115,600	-8,292	-9,999
Manitoba	5,958	-7,616	-1,658	11,998	-22,634	-10,637	8,979
Saskatchewan	701	-4,311	-3,610	4,055	-6,925	-2,870	-740
Alberta	1,795	-16,163	-14,368	14,463	-36,176	-21,713	7,345
British Columbia	1,975	-20,146	-18,171	12,330	-47,794	-35,464	17,293
<b>Canada</b>	<b>89,073</b>	<b>-141,022</b>	<b>-51,949</b>	<b>267,828</b>	<b>-326,333</b>	<b>-58,505</b>	<b>6,556</b>