



Canadian potato production

Statistical bulletin

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This publication contains:

The first estimate of area harvested, yield and total production for the 2004 potato crop.

The revised yield and total production for the 2003 crop and the preliminary estimate of the volume and value of potatoes sold, seeded, consumed or fed to livestock.

Highlights

Canada's potato production slipped only slightly this year despite the first decline in the area planted in 16 years, and the fact that farmers were unable to harvest 4,600 hectares.

Total production in 2004 was estimated at 5.2 million tonnes, down from 5.3 million tonnes the year before. The decline was kept to a minimum because of a record high yield, which was due mainly to two provinces – Quebec and Alberta.

Bad weather and disease kept farmers from harvesting an estimated 4,600 hectares (11, 100 acres) of the crop. Potato farmers planted 175,400 hectares (433,000 acres) in 2004, a 5.4% decline from the year before, the first since 1988.

However, the national record for yield was broken for the second year in a row. Farmers nationwide harvested 30.39 tonnes per hectare, up from 29.17 in 2003. Farmers in Quebec experienced their largest crop since 1944 with a record-smashing yield of 30.87 tonnes per hectare. Alberta producers set a record high of 39.18 tonnes per hectare.

An unusually wet summer and warm harvest conditions in New Brunswick contributed to the abandonment of about 1,200 hectares, which was among the 4,600 hectares not harvested. Further, the adverse conditions led to unusually high cullage of the potatoes harvested. The volume already culled will be reflected in the Agriculture and Agri-Food Canada's November 1 storage holdings, scheduled for release later today.

Overall, Prince Edward Island farmers accounted for 25% of this year's production, Manitoba farmers 20%, and Alberta farmers 18%.

It is too early to estimate the value of the 2004 crop, but the 2003 crop was worth \$882.8 million.

Release schedule

This publication is now available on the day of release, free of charge, from Statistics Canada's web site at www.statcan.ca. The release dates for the upcoming crop season are as follows:

January 14, 2005
July 15, 2005
November 18 2005



The Canadian Potato Production bulletin is released three times a year in January, July and November.

Concepts and definitions

Area planted

Planted area refers to potato area planted in the spring of the reference year.

The preliminary potato area estimate for the current year is released in mid-July. It is based upon data from sample surveys or consultation with provincial vegetable or potato specialists.

Quebec, Ontario and Alberta – The preliminary area estimate is provided by consultation with provincial potato specialists and departments of agriculture.

Prince Edward Island and New Brunswick – Estimates are produced using the Potato Area and Yield Survey. This survey is a two phase telephone probability survey. Calls are made in June for area and again in October for area harvested and production.

Newfoundland and Labrador, Nova Scotia, Manitoba, Saskatchewan, British Columbia – Estimates are produced using the Spring Fruit and Vegetable Area Survey, the June Crop Survey and the June Atlantic Agriculture Survey, as well as consultation with the provincial potato and vegetable specialists.

Revisions may be made to July's area estimate the following November. The sources for these revised estimates are as follows:

Prince Edward Island and New Brunswick – The previous year's area may be revised as a result of Agriculture and Agri-Food Canada's disposition data indicating a significantly different production. Area planted estimates for the current year may be revised in relation to the previous year's adjusted area. The Potato area and Yield Survey also asks for confirmation of planted area.

Quebec, Ontario and Alberta – Area planted is collected through each province's own survey program.

Newfoundland and Labrador, Nova Scotia, Manitoba, Saskatchewan and British Columbia – The Potato Area and Yield Survey supplies information on the area planted.

Area harvested

This series was incorporated in 1985 for all provinces except Quebec and Ontario, where the series became available beginning in 1993. It is calculated by subtracting unharvested area from area planted. Revisions to area planted will automatically result in revisions to area harvested if area lost remains constant. It indicates the area not harvested because of poor harvest conditions, crop failure or disease. For years prior to 1985 and for Quebec and Ontario prior to 1993, unharvested area was accounted for in the total production with production for that area placed at zero.

Area harvested is released in November of the current year. Revisions can be made to the previous year's area harvested at the same time.

Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan and British Columbia - Crop Insurance data in combination with the Potato Area and Yield Survey determines the area lost.

Quebec, Ontario and Alberta - Area lost is collected through each province's own survey program.

Yield

Yield is a measure of production from the harvested area based on the volume produced, including cull potatoes, but excluding product left in the field.

Both current and revised yields are released in the November issue of the Canadian Potato Production Bulletin.

Sources of data for each province are:

Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan and British Columbia - Estimates are based on responses to the Potato Area and Yield Survey. Calls are made in late October and early November of the current year.

Quebec, Ontario and Alberta - Yield is collected through each province's own survey program.

Yields may be revised the following January. Later survey results from the provincial ministries or administrative data might indicate a revision is necessary. Only unusual circumstances would indicate another revision to this production the following July.

Total production

Total production, the product of area harvested by the average yield, is the volume of potatoes harvested out of the field, including culls, but excluding gleanings.

The production estimate is released in November of the current year. Any revisions to production resulting from new information or supply disposition data can be made the following January or one year later in the following November. (See concepts for yield).

Amount sold, consumed, seeded or fed to livestock

This series was established in 1982. From 1986, the series includes the amount fed to livestock. It measures the volume of potatoes sold, consumed on farm, seed for own use, plus potatoes fed to livestock. If potatoes were destroyed and producers received funds as part of a diversion program, these potatoes would be considered sold and included in the amount utilized. Starting with the 1999 crop, all potatoes that are being shipped to French Fry processors are being included in the volume sold, consumed, seeded or fed to livestock. No cullage is being deducted from these marketings. These numbers are released each November for the previous crop year.

Newfoundland and Labrador - The amount is set at 90% of the harvested production.

Prince Edward Island and New Brunswick - The Canadian Food Inspection Agencies inspection staff provides a monthly estimate of cullage and marketings.

Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia - The amount is based on consultation with provincial specialists and marketing agencies.

Quebec - The amount is collected through their province's survey program

Average price

The average price for potatoes is based on the transaction price received by the producer. If a portion of the crop is being utilized but the producer is receiving no compensation for that portion of the crop, the price is averaged into the average price at a zero value. The price is net of all deductions made before the producer is paid. The average price is released each November for the previous year's crop.

Newfoundland and Labrador and Nova Scotia – Annual prices are established in consultation with provincial specialists and as a result of the Fall Survey of Fruit and Vegetables.

Prince Edward Island, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia - Statistics Canada conducts a monthly survey of potato prices received by producers. These prices are then multiplied by the monthly disposition of each of the grades of these potatoes to create an annual weighted price.

Farm value

Farm value is the product of the amount sold, consumed, seeded or fed to livestock by the average farm price. (See concepts section on amount sold, consumed seed or fed to livestock and prices). The farm value is released each November for the previous year's crop.

Methodology and data quality

Potato area and yield survey

Survey frame and sample selection

The target population includes all potato farms in Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan and British Columbia except those on Indian Reserves and institutional farms.

The Census of Agriculture provides a list of farms and their potato area. This list is updated annually from various available sources. The list frame is stratified on the basis of Census potato area and provincial geographic boundaries.

A sample of approximately 689 farms (49 Newfoundland, 25 Nova Scotia, 258 in Prince Edward Island, 136 in New Brunswick, 132 in Manitoba, 59 in Saskatchewan and 34 in British Columbia) is drawn from the list frame for the Potato Area and Yield Survey.

The yield portion of the survey is conducted in October to confirm area planted and to ask for area harvested and production. Operations that had reported no potatoes in June are not contacted a second time.

Data collection

Data collection for the seeded potato area was done by telephone interview, from June 21 to June 28, 2004 and for the yield portion between October 18 and November 1, 2004.

By the end of the collection period, about 85% of the questionnaires had been completed. The refusal rate to the survey was 5.0%. Non-contact and non-response can explain the difference between the completion rate and the refusal rate. Initial sample weights are adjusted (a process called raising factor adjustment) in cases of non-response. No imputation is performed.

Estimation

The survey data collected from the Potato Area and Yield Survey are weighted in order to produce level indicators which are representative of the population. These level indicators then undergo a validation process, based on subject matter analysis and consultation with provincial specialists, before an estimate is determined.

Sampling and non-sampling errors

The statistics contained in this publication are based on a random sample of agricultural operations and, as such, are subject to sampling and non-sampling errors. The overall quality of the estimates depends on the combined effect of these two types of errors.

Sampling errors arise because estimates are derived from sample data and not the entire population. These errors depend on factors such as sample size, sampling design and the method of estimation.

Non-sampling errors are not related to sampling and may occur throughout the survey operation for various reasons like coverage, differences in interpretation of questions, incorrect information from respondents, mistakes in recording, coding or processing of data.

Data quality

Sampling error can be estimated from the sample itself by using a statistical measure called the coefficient of variation (cv). Over repeated surveys, 95 times out of 100, the difference between a sample estimate and what should have been obtained from an enumeration of all potato farming operations would be less than twice the coefficient of variation. This range of values is referred to as 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.

For the 2004 area estimates, the cv's from the Potato Area and Yield Survey ranged from 2.8% to 22.4%.

For the 2004 yield estimates, the cv's ranged from .7% to 9.9%.

Farm Product Prices Survey

Survey frame and sample selection

The target population for Prince Edward Island, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia consists of all agricultural operations in these provinces which grow potatoes. The Census of Agriculture provides a list of such farms and is updated from various available sources. The list frame is stratified on the basis of the area of potatoes reported on the 2001 Census. A sample of approximately 500 farms is drawn from the list frame and is rotated as required.

Data collection

Data collection is carried out by telephone interview five business days following the 15th of every month with a reference date of the 15th. The refusal rate is usually less than 5%. No imputations are performed. Editing is done following data capture and outliers are verified and removed if necessary from the sample. A simple average is calculated on the remaining data.

Revision procedures

Area, yield, production, price or value are all subject to revision when more information becomes available. The policy is to revise the estimates when:

- supply/disposition analysis at the end of the crop year indicates under or over-estimation of production; or
- a new benchmark for area becomes available from the Census of Agriculture; or
- new sources of administrative data would suggest errors to any survey results.

The tables below contain some statistics which indicate the magnitude and direction of past revision from the preliminary to the final (following intercensal revisions) seeded potato area and total production. The magnitude is measured by the average percent change between the preliminary and final estimates. The direction of revisions is indicated by counting the number of years that the preliminary estimate is above or below the final revised estimate.

The data indicates that the preliminary estimates of seeded area have been revised 10 years out of the past 10 by an average of 1.22% at the Canadian level.

Magnitude and direction of past revisions to Canadian seeded potato area 1994-2003		
Average % change	Number of years seeded area was revised	
	Upwards	Downwards
1.22	10	0

The data indicates that the preliminary estimates of harvested production at the Canadian level have been revised by an average 2.94% over the past years. In 8 of the past 10 years, the revision has been upwards.

Magnitude and direction of past revisions to Canadian harvested production 1993-2003		
Average % Change	Number of Years Harvested Production was Revised	
	Upwards	Downwards
2.94	8	2

Conversion factors

The following metric conversion factors are used in this publication:

Area: 1 acre = 0.4047 hectare

Production: 1 cwt = 0.04536 tonne

To convert area from imperial to metric, provincial acreages are first converted, then the individual provinces are added for the Canadian total area in hectares. The Canadian acreage may not directly convert to the Canadian area in hectares.

The same method is used for production. Provincial cwts. are converted to provincial tonnes, which are then added for the Canadian production in tonnes.

The Canadian yield in tonnes is the result of the total production in tonnes divided by the Canadian hectares. The yield in cwts/acre may not be directly convertible to the yield in tonnes/hectare.

The average farm price at the Canadian level in \$/tonne is the farm value divided by the marketed production in tonnes. The price in \$/cwt may not convert directly to the price in \$/tonne.

Data confidentiality

Data confidentiality is ensured under the Statistics Act, which prohibits the divulging of individual or aggregated data where individuals or businesses might be identified.

Standards of service

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Note of appreciation

Canada owes the success of its statistical system to a long standing co-operation between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

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Cette publication est maintenant disponible en français (Numéro 22-008-XIF au catalogue).

How to obtain more information

Inquiries about this product and related statistics or services should be directed to Client Services, Agriculture Division, Statistics Canada at 1-800-465-1991 or by email: agriculture@statcan.ca.

You can also visit our World Wide Web site: <http://www.statcan.ca>

Toll-free access is provided for all users who reside outside the local dialling area of any of the Regional Reference Centres.

National Enquiries Line (Canada and United States)	1 800 263 1136
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Email inquiries	infostats@statcan.ca

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	Area planted	Area harvested	Yield	Total production	Amount sold, consumed, seeded or fed to livestock	Average farm price	Farm value
	acres	acres	hundredweight per acre	hundredweight	hundredweight	dollars / hundredweight	thousands of dollars
2001							
Canada	418,700	411,800	225.9	93,045,000	91,044,000	10.55	960,642
Newfoundland and Labrador	600	600	160.0	96,000	88,000	15.85	1,395
Prince Edward Island	107,000	107,000	172.0	18,404,000	18,306,000	10.52	192,510
Nova Scotia	5,200	5,200	150.0	780,000	733,000	9.67	7,085
New Brunswick	58,400	57,400	250.0	14,350,000	14,083,000	10.86	152,967
Quebec	46,700	46,000	229.8	10,569,000	10,386,000	11.64	120,938
Ontario	43,600	42,800	185.0	7,918,000	7,518,000	11.95	89,842
Manitoba	77,600	74,600	234.0	17,456,000	17,178,000	8.35	143,463
Saskatchewan	12,600	12,300	245.0	3,014,000	2,826,000	18.47	52,195
Alberta	58,300	57,300	315.0	18,050,000	17,645,000	8.70	153,435
British Columbia	8,700	8,600	280.0	2,408,000	2,281,000	20.52	46,812
2002							
Canada	437,600	422,300	245.6	103,731,000	101,305,000	9.65	978,030
Newfoundland and Labrador	700	700	164.3	115,000	107,000	18.13	1,940
Prince Edward Island	109,000	107,500	280.0	30,100,000	29,794,000	7.71	229,825
Nova Scotia	5,500	5,500	220.0	1,210,000	1,150,000	10.14	11,656
New Brunswick	58,000	58,000	260.0	15,080,000	14,621,000	8.09	118,321
Quebec	48,900	47,900	210.3	10,072,000	9,732,000	10.72	104,361
Ontario	43,700	41,700	167.0	6,964,000	6,589,000	13.93	91,778
Manitoba	88,000	84,000	220.0	18,480,000	18,270,000	8.16	149,157
Saskatchewan	13,000	12,500	285.0	3,563,000	3,310,000	17.79	58,899
Alberta	62,000	55,800	280.0	15,624,000	15,328,000	9.70	148,638
British Columbia	8,800	8,700	290.0	2,523,000	2,404,000	26.40	63,455
2003							
Canada	457,500	447,000	260.5	116,458,000	110,441,000	7.99	882,765
Newfoundland and Labrador	700	700	214.3	150,000	139,000	16.40	2,280
Prince Edward Island	106,000	105,500	265.0	27,958,000	27,661,000	5.87	162,248
Nova Scotia	5,300	5,200	215.0	1,118,000	1,060,000	9.23	9,785
New Brunswick	59,000	58,500	255.0	14,918,000	14,312,000	6.37	91,198
Quebec	49,900	48,900	237.7	11,625,000	11,080,000	7.84	86,849
Ontario	44,900	43,900	205.0	9,000,000	8,010,000	11.01	88,194
Manitoba	103,000	101,500	245.0	24,868,000	21,955,000	7.44	163,384
Saskatchewan	13,500	13,000	315.0	4,095,000	3,925,000	15.35	60,255
Alberta	66,000	61,000	330.0	20,130,000	19,826,000	8.54	169,375
British Columbia	9,200	8,800	295.0	2,596,000	2,473,000	19.89	49,197
2004							
Canada	433,000	421,900	271.2	114,432,000	..	..	..
Newfoundland and Labrador	700	600	190.0	114,000	..	..	..
Prince Edward Island	106,000	105,500	270.0	28,485,000	..	..	..
Nova Scotia	5,500	5,300	235.1	1,246,000	..	..	..
New Brunswick	58,500	55,500	280.0	15,540,000	..	..	..
Quebec	46,500	45,200	275.6	12,457,000	..	..	..
Ontario	40,000	39,000	202.0	7,878,000	..	..	..
Manitoba	96,000	93,000	245.0	22,785,000	..	..	..
Saskatchewan	12,000	11,500	280.0	3,220,000	..	..	..
Alberta	59,000	58,000	350.0	20,300,000	..	..	..
British Columbia	8,800	8,300	290.0	2,407,000	..	..	..

.. - not available for a specific reference period

	Area planted	Area harvested	Yield	Total production	Amount sold, consumed, seeded or fed to livestock	Average farm price	Farm value
	hectares	hectares	tonnes/ hectares	tonnes	tonnes	dollars/tonne	thousands of dollars
2001							
Canada	169 300	166 600	25.33	4 220 500	4 129 800	232.61	960,642
Newfoundland and Labrador	200	200	22.00	4 400	4 000	348.75	1,395
Prince Edward Island	43 300	43 300	19.28	834 800	830 400	231.83	192,510
Nova Scotia	2 100	2 100	16.86	35 400	33 200	213.40	7,085
New Brunswick	23 600	23 200	28.06	650 900	638 800	239.46	152,967
Quebec	18 900	18 600	25.77	479 400	471 100	256.71	120,938
Ontario	17 600	17 300	20.76	359 200	341 000	263.47	89,842
Manitoba	31 400	30 200	26.22	791 800	779 200	184.12	143,463
Saskatchewan	5 100	5 000	27.34	136 700	128 200	407.14	52,195
Alberta	23 600	23 200	35.29	818 700	800 400	191.70	153,435
British Columbia	3 500	3 500	31.20	109 200	103 500	452.29	46,812
2002							
Canada	177 200	171 000	27.52	4 705 200	4 595 200	212.84	978,030
Newfoundland and Labrador	300	300	17.33	5 200	4 900	395.92	1,940
Prince Edward Island	44 100	43 500	31.39	1 365 300	1 351 500	170.05	229,825
Nova Scotia	2 200	2 200	24.95	54 900	52 200	223.30	11,656
New Brunswick	23 500	23 500	29.11	684 000	663 200	178.41	118,321
Quebec	19 800	19 400	23.55	456 900	441 400	236.43	104,361
Ontario	17 700	16 900	18.69	315 900	298 900	307.05	91,778
Manitoba	35 600	34 000	24.66	838 300	828 700	179.99	149,157
Saskatchewan	5 300	5 100	31.69	161 600	150 100	392.40	58,899
Alberta	25 100	22 600	31.36	708 700	695 300	213.78	148,638
British Columbia	3 600	3 500	32.69	114 400	109 000	582.16	63,455
2003							
Canada	185 200	181 100	29.17	5 282 500	5 009 600	176.21	882,765
Newfoundland and Labrador	300	300	22.67	6 800	6 300	361.90	2,280
Prince Edward Island	42 900	42 700	29.70	1 268 200	1 254 700	129.31	162,248
Nova Scotia	2 100	2 100	24.14	50 700	48 100	203.43	9,785
New Brunswick	23 900	23 700	28.55	676 700	649 200	140.48	91,198
Quebec	20 200	19 800	26.63	527 300	502 600	172.80	86,849
Ontario	18 200	17 800	22.93	408 200	363 300	242.76	88,194
Manitoba	41 700	41 100	27.45	1 128 000	995 900	164.06	163,384
Saskatchewan	5 500	5 300	35.04	185 700	178 000	338.51	60,255
Alberta	26 700	24 700	36.97	913 100	899 300	188.34	169,375
British Columbia	3 700	3 600	32.72	117 800	112 200	438.48	49,197
2004							
Canada	175 400	170 800	30.39	5 190 600	..	..	..
Newfoundland and Labrador	300	200	26.00	5 200	..	..	..
Prince Edward Island	42 900	42 700	30.26	1 292 100	..	..	..
Nova Scotia	2 200	2 100	26.90	56 500	..	..	..
New Brunswick	23 700	22 500	31.33	704 900	..	..	..
Quebec	18 800	18 300	30.87	565 000	..	..	..
Ontario	16 200	15 800	22.61	357 300	..	..	..
Manitoba	38 900	37 600	27.49	1 033 500	..	..	..
Saskatchewan	4 900	4 700	31.09	146 100	..	..	..
Alberta	23 900	23 500	39.18	920 800	..	..	..
British Columbia	3 600	3 400	32.12	109 200	..	..	..

.. - not available for a specific reference period