



# Canadian potato production

Statistical bulletin

November 2003

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Agriculture Division

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This publication contains:

The revised yield and total production for the 2002 crop and the preliminary estimate of the volume and value of potatoes sold, seeded, consumed or fed to livestock .

The first estimates of area harvested, yield and total production for the 2003 potato crop.

## Highlights

Canada's 2003 total potato production is estimated to be the largest crop on record producing 117,382,000 cwts. (5 324 300 tonnes). Once again the western provinces drove the increase as they continued to expand area to meet processing demands from within their own provinces. Manitoba led this expansion with their area up 17% over 2002. The provinces from Quebec to British Columbia all experienced better yields than in 2002, with yields in the eastern provinces at their 2002 levels or slightly lower.

## 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](http://www.statcan.ca). The release dates for the upcoming crop season are as follows:

January 16, 2004  
July 16, 2004  
November 19, 2004

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, 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. Seed inspection data supplements these area estimates as well.

### **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, 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.

Quebec - The average price is collected through the provincial survey program and the Farm Product Prices Survey.

### **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 648 farms (39 Newfoundland, 20 Nova Scotia, 253 in Prince Edward Island, 132 in New Brunswick, 112 in Manitoba, 63 in Saskatchewan and 29 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 18 to June 27, 2003 and for the yield portion between October 20 to November 11, 2003.

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 2003 area estimates, the cv's from the Potato Area and Yield Survey ranged from 3.2% to 38.6%.

For the 2003 yield estimates, the cv's ranged from .6% to 4.1%.

## **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 upward 10 years out of the past 10 by an average of 1.37% at the Canadian level.

Magnitude and direction of past revisions to Canadian seeded potato area 1993-2002		
Average % change	Number of years seeded area was revised	
	Upwards	Downwards
1.37	10	0

The data indicates that the preliminary estimates of harvested production at the Canadian level have been revised upward by an average 2.91% 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 1993-2002		
Average % Change	Number of Years Harvested Production was Revised	
	Upwards	Downwards
2.91	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 cooperation 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](mailto: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
National Telecommunications Device for the Hearing Impaired	1 800 363 7629
Order Only Line (Canada and United States)	1 800 267 6677
Fax Order Line (Canada and United States)	1 877 287 4369
Email inquiries	<a href="mailto:infostats@statscan.ca">infostats@statscan.ca</a>

This publication was prepared under the direction of:  
Mark Elward, Chief, Livestock Section, Ottawa  
Barb McLaughlin, Truro, Nova Scotia  
Bernadette Alain, Truro, Nova Scotia

	Area planted	Area harvested	Yield	Total production	Amount sold, consumed, seeded or fed to livestock	Average farm price	Farm value
	acres	acres	cwt per acre	cwt	cwt	\$/cwt	thousands of dollars
<b>2001</b>							
Canada	418,700	411,800	225.9	93,045,000	91,044,000	10.55	960,643
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	192,511
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
<b>2002</b>							
Canada	437,600	422,300	245.2	103,543,000	101,127,000	9.62	972,868
Newfoundland and Labrador	700	700	164.2	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	270.0	3,375,000	3,132,000	17.16	53,737
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
<b>2003</b>							
Canada	456,500	446,000	263.2	117,382,000	..	..	..
Newfoundland and Labrador	700	700	214.3	150,000	..	..	..
Prince Edward Island	106,000	105,500	275.0	29,013,000	..	..	..
Nova Scotia	5,300	5,200	215.0	1,118,000	..	..	..
New Brunswick	59,000	58,500	260.0	15,210,000	..	..	..
Quebec	49,400	48,400	235.0	11,374,000	..	..	..
Ontario	44,900	43,900	205.0	9,000,000	..	..	..
Manitoba	103,000	101,500	245.0	24,868,000	..	..	..
Saskatchewan	14,000	13,500	315.0	4,253,000	..	..	..
Alberta	65,000	60,000	330.0	19,800,000	..	..	..
British Columbia	9,200	8,800	295.0	2,596,000	..	..	..

.. - 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	\$/tonne	thousands of dollars
<b>2001</b>							
Canada	169 300	166 600	25.33	4 220 500	4 129 800	232.61	960 643
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	192 511
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
<b>2002</b>							
Canada	177 200	171 000	27.47	4 696 700	4 587 200	212.08	972 868
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	30.02	153 100	142 100	378.16	53 737
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
<b>2003</b>							
Canada	184 800	180 700	29.46	5 324 300	..	..	..
Newfoundland and Labrador	300	300	22.67	6 800	..	..	..
Prince Edward Island	42 900	42 700	30.82	1 316 000	..	..	..
Nova Scotia	2 100	2 100	24.14	50 700	..	..	..
New Brunswick	23 900	23 700	29.11	689 900	..	..	..
Quebec	20 000	19 600	26.32	515 900	..	..	..
Ontario	18 200	17 800	22.93	408 200	..	..	..
Manitoba	41 700	41 100	27.45	1 128 000	..	..	..
Saskatchewan	5 700	5 500	35.07	192 900	..	..	..
Alberta	26 300	24 300	36.96	898 100	..	..	..
British Columbia	3 700	3 600	32.72	117 800	..	..	..

.. - not available for a specific reference period