



**Service bulletin**

# Canadian Potato Production

November 2006



## Highlights

**This publication contains the preliminary estimate of area harvested and harvested production of potatoes for 2006. It also contains revisions to the production for the 2005 crop, as well as preliminary estimates of the volume and value of potatoes sold, consumed, seeded or fed to livestock for 2005.**

- Better weather conditions across most of Canada this year led to the best yielding potato crop in history. Three provinces broke the 300 cwt./acre barrier (33.6 tonnes/hectare) for yields. The national average was 287.1 cwt/acre (32.18 tonnes/hectare). This is up 14% from last year.
- Newfoundland and Labrador, Ontario and Manitoba saw the biggest improvement in yields. Nova Scotia and Alberta were the only provinces to show a reduction.
- The 2006 area planted is down 2% from last year, while area harvested is almost identical to 2005.
- The Canadian potato production estimate is estimated to be 110,759,000 cwts. (5,024,028 tonnes). This is up 15% from 2005, but 5% below the record crop in 2003.



## Statistical tables

Table 1

Area, production and farm value of potatoes (imperial measures), Canada and provinces

	Seeded area	Harvested area	Average yield	Production	Amount sold, consumed, seeded or fed to livestock	Average farm price of potatoes sold, consumed, seeded or fed to livestock	Total farm value
	acres		hundredweight per acre	hundredweight		dollars per hundredweight	thousands of dollars
<b>2003</b>							
<b>Canada</b>	<b>457,500</b>	<b>447,000</b>	<b>260.5</b>	<b>116,458,000</b>	<b>110,441,000</b>	<b>7.99</b>	<b>882,765</b>
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
<b>2004</b>							
<b>Canada</b>	<b>433,200</b>	<b>424,400</b>	<b>271.9</b>	<b>115,409,000</b>	<b>108,844,000</b>	<b>7.63</b>	<b>830,448</b>
Newfoundland and Labrador	700	600	190.0	114,000	106,000	16.27	1,725
Prince Edward Island	106,000	105,500	275.0	29,013,000	28,548,000	5.79	165,376
Nova Scotia	5,500	5,300	235.1	1,246,000	1,185,000	9.12	10,804
New Brunswick	58,500	58,000	285.0	16,530,000	14,667,000	5.68	83,241
Quebec	47,700	46,200	265.5	12,266,000	11,230,000	7.87	88,349
Ontario	40,000	39,000	202.0	7,878,000	6,702,000	9.82	65,838
Manitoba	96,000	93,000	245.0	22,785,000	22,068,000	7.61	167,980
Saskatchewan	12,000	11,500	280.0	3,220,000	2,585,000	12.86	33,245
Alberta	58,000	57,000	350.0	19,950,000	19,596,000	8.58	168,103
British Columbia	8,800	8,300	290.0	2,407,000	2,157,000	21.23	45,787
<b>2005</b>							
<b>Canada</b>	<b>403,100</b>	<b>384,000</b>	<b>251.8</b>	<b>96,706,000</b>	<b>94,407,000</b>	<b>9.75</b>	<b>920,341</b>
Newfoundland and Labrador	700	600	166.0	100,000	94,000	19.58	1,841
Prince Edward Island	96,000	95,500	275.0	26,263,000	26,060,000	8.97	233,786
Nova Scotia	4,200	4,000	215.0	860,000	805,000	9.44	7,602
New Brunswick	57,000	55,500	260.0	14,430,000	13,974,000	8.91	124,556
Quebec	48,700	47,400	227.3	10,774,000	10,337,000	11.67	120,592
Ontario	36,300	35,500	162.0	5,751,000	5,578,000	12.87	71,784
Manitoba	86,000	76,000	210.0	15,960,000	15,769,000	8.05	126,873
Saskatchewan	10,000	9,900	265.0	2,624,000	2,266,000	14.26	32,319
Alberta	56,000	51,500	344.0	17,716,000	17,414,000	8.80	153,223
British Columbia	8,200	8,100	275.0	2,228,000	2,110,000	22.64	47,764
<b>2006</b>							
<b>Canada</b>	<b>396,700</b>	<b>385,800</b>	<b>287.1</b>	<b>110,759,000</b>	..	..	..
Newfoundland and Labrador	700	700	230.0	161,000	..	..	..
Prince Edward Island	97,000	94,800	300.0	28,440,000	..	..	..
Nova Scotia	3,500	3,400	210.0	714,000	..	..	..
New Brunswick	58,000	57,000	300.0	17,100,000	..	..	..
Quebec	46,500	43,000	265.1	11,400,000	..	..	..
Ontario	37,000	36,000	209.0	7,524,000	..	..	..
Manitoba	82,000	81,000	280.0	22,680,000	..	..	..
Saskatchewan	9,500	8,700	265.0	2,306,000	..	..	..
Alberta	54,500	53,200	342.0	18,194,000	..	..	..
British Columbia	8,000	8,000	280.0	2,240,000	..	..	..

.. not available for a specific reference period

Note(s): Figures may not add due to rounding.

**Table 2**  
**Area, production and farm value of potatoes (metric measures), Canada and provinces**

	Seeded area	Harvested area	Average yield	Production	Amount sold, consumed, seeded or fed to livestock	Average farm price of potatoes sold, consumed, seeded or fed to livestock	Total farm value
	hectares	tonnes per hectares	tonnes		dollars per tonne	thousands of dollars	
<b>2003</b>							
<b>Canada</b>	<b>185,150</b>	<b>180,901</b>	<b>29.20</b>	<b>5,282,535</b>	<b>5,009,604</b>	<b>176.15</b>	<b>882,765</b>
Newfoundland and Labrador	283	283	24.02	6,804	6,305	361.55	2,280
Prince Edward Island	42,898	42,696	29.70	1,268,175	1,254,703	129.41	162,248
Nova Scotia	2,145	2,104	24.10	50,712	48,082	203.48	9,785
New Brunswick	23,877	23,675	28.58	676,680	649,192	140.43	91,198
Quebec	20,195	19,790	26.64	527,310	502,589	172.84	86,849
Ontario	18,171	17,766	22.98	408,240	363,334	242.72	88,194
Manitoba	41,684	41,077	27.46	1,128,012	995,879	164.02	163,384
Saskatchewan	5,463	5,261	35.31	185,749	178,038	338.40	60,255
Alberta	26,710	24,687	36.99	913,097	899,307	188.27	169,375
British Columbia	3,723	3,561	33.06	117,755	112,175	438.49	49,197
<b>2004</b>							
<b>Canada</b>	<b>175,316</b>	<b>171,755</b>	<b>30.48</b>	<b>5,234,952</b>	<b>4,937,164</b>	<b>168.21</b>	<b>830,448</b>
Newfoundland and Labrador	283	243	21.30	5,171	4,808	358.69	1,725
Prince Edward Island	42,898	42,696	30.82	1,316,030	1,294,937	127.65	165,376
Nova Scotia	2,226	2,145	26.35	56,519	53,752	201.06	10,804
New Brunswick	23,675	23,473	31.94	749,801	665,295	125.22	83,241
Quebec	19,304	18,697	29.76	556,386	509,393	173.50	88,349
Ontario	16,188	15,783	22.64	357,346	304,003	216.49	65,838
Manitoba	38,851	37,637	27.46	1,033,528	1,001,004	167.77	167,980
Saskatchewan	4,856	4,654	31.38	146,059	117,256	283.51	33,245
Alberta	23,473	23,068	39.23	904,932	888,875	189.15	168,103
British Columbia	3,561	3,359	32.50	109,182	97,842	468.03	45,787
<b>2005</b>							
<b>Canada</b>	<b>163,135</b>	<b>155,405</b>	<b>28.22</b>	<b>4,386,584</b>	<b>4,282,302</b>	<b>214.95</b>	<b>920,341</b>
Newfoundland and Labrador	283	243	18.61	4,536	4,264	431.66	1,841
Prince Edward Island	38,851	38,649	30.82	1,191,290	1,182,082	197.75	233,786
Nova Scotia	1,700	1,619	24.10	39,010	36,515	208.11	7,602
New Brunswick	23,068	22,461	29.14	654,545	633,861	196.43	124,556
Quebec	19,709	19,183	25.48	488,709	468,886	257.28	120,592
Ontario	14,691	14,367	18.16	260,865	253,018	283.73	71,784
Manitoba	34,804	30,757	23.54	723,946	715,282	177.47	126,873
Saskatchewan	4,047	4,007	29.70	119,025	102,786	314.37	32,319
Alberta	22,663	20,842	38.56	803,598	789,899	194.00	153,223
British Columbia	3,319	3,278	30.82	101,062	95,710	499.12	47,764
<b>2006</b>							
<b>Canada</b>	<b>160,544</b>	<b>156,133</b>	<b>32.18</b>	<b>5,024,028</b>	..	..	..
Newfoundland and Labrador	283	283	25.78	7,303	..	..	..
Prince Edward Island	39,256	38,366	33.62	1,290,038	..	..	..
Nova Scotia	1,416	1,376	23.54	32,387	..	..	..
New Brunswick	23,473	23,068	33.62	775,656	..	..	..
Quebec	18,819	17,402	29.71	517,104	..	..	..
Ontario	14,974	14,569	23.43	341,289	..	..	..
Manitoba	33,185	32,781	31.38	1,028,765	..	..	..
Saskatchewan	3,845	3,521	29.70	104,600	..	..	..
Alberta	22,056	21,530	38.33	825,280	..	..	..
British Columbia	3,238	3,238	31.38	101,606	..	..	..

.. not available for a specific reference period

**Note(s):** Figures may not add due to rounding.

## 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 when calls are made for the yield in the fall.

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: 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 (Survey 3436).

### 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 "**Amount sold, consumed, seeded or fed to livestock**" and "**Average price**"). The farm value is released each November for the previous year's crop.

## Methodology and data quality

### Potato area and yield survey (Survey 3446)

#### Survey frame and sample selection

The target population includes all potato farms in Newfoundland and Labrador, Nova Scotia, 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 801 farms (59 Newfoundland and Labrador, 37 Nova Scotia, 250 in Prince Edward Island, 155 in New Brunswick, 167 in Manitoba, 95 in Saskatchewan and 38 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 19 to June 29, 2006 and for the yield portion between October 18 to November 13, 2006.

By the end of the collection period, about 84% of the questionnaires had been completed. The refusal rate to the survey was about 3.0%. 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 2006 area estimates, the cv's from the Potato Area and Yield Survey ranged from 3.6% to 25.7%.

For the 2006 yield estimates, the cv's ranged from 1.1% to 10.2%.

## **Farm product prices survey (Survey 3436)**

### **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.

## **Fall Survey of Fruits & Vegetables )Survey 3407)**

### **Survey Frame and Sample Selection**

Newfoundland & Nova Scotia - This new national annual survey contacts about 1000 fruit or vegetable growers in Newfoundland and in Nova Scotia.

The target population is all agricultural operations in Newfoundland and Nova Scotia. The Census of Agriculture provides a list of farms which is updated from various available sources.

### **Data Collection**

Data collection is carried out using a CATI application in November. No imputations are performed. Editing is done and outliers are removed. A high response is expected.

### **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 9 years out of the past 10 by an average of 2.02% at the Canadian level. See Table 3.

**Table 3**  
**Magnitude and direction of past revisions to Canadian seeded potato area 1996 to 2005**

	Number of years seeded area was revised		Average percentage change
	Upwards	Downwards	
	years		percentage
Magnitude and direction of past revisions	9	1	2.02

The data indicates that the preliminary estimates of harvested production at the Canadian level have been revised upward by an average 2.15% over the past years. In 9 of the past 10 years, the revision has been upwards. See Table 4.

**Table 4**  
**Magnitude and direction of past revisions to Canadian harvested production 1996 to 2005**

	Number of years harvested production was revised		Average percentage change
	Upwards	Downwards	
	years		percentage
Magnitude and direction of past revisions	9	1	2.15

### 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.

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