

# Model-based principal field crop estimates, July 2022

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In 2022, Canadian farmers are projected to produce more wheat, canola, barley, oats, soybeans and corn for grain, according to recent yield model estimates using satellite imagery and agroclimatic data. Increased production was largely driven by better growing conditions in Western Canada.

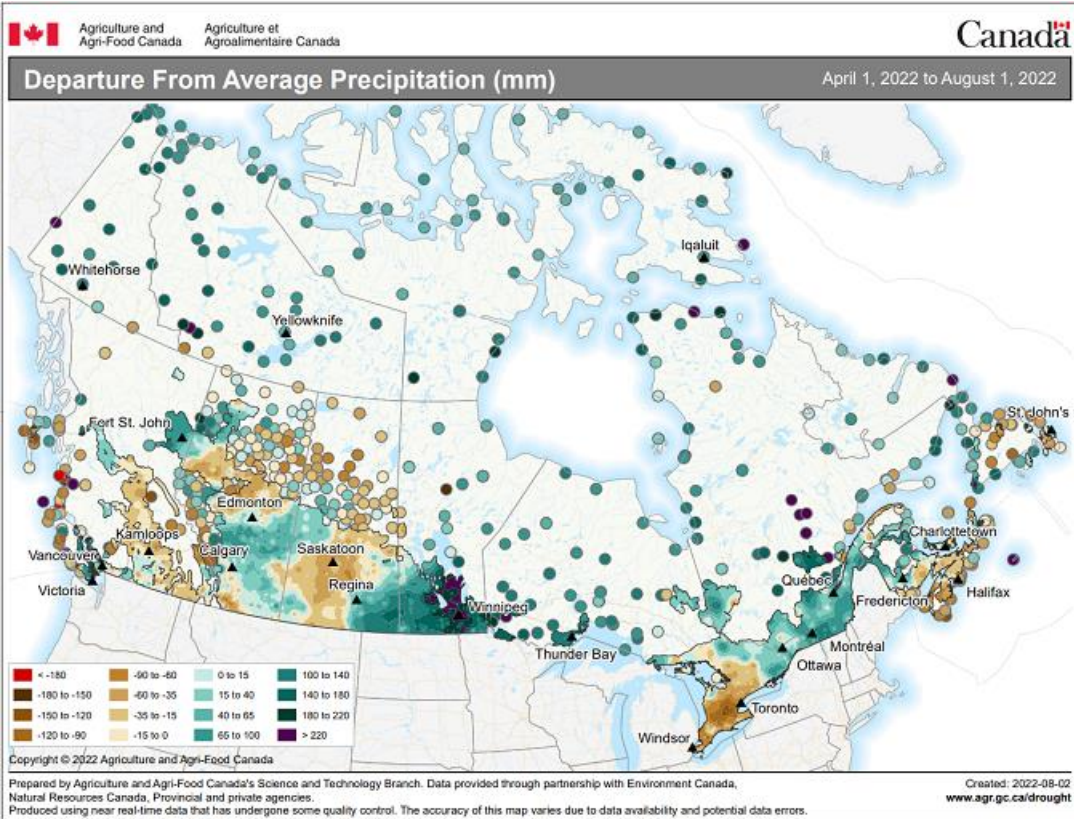
In parts of the Prairies, higher-than-average precipitation and more moderate temperatures have resulted in better crop conditions than in 2021. In Alberta, provincial reports indicated that approximately three-quarters of the total crop were rated as being in good to excellent condition, well above 2021 reports, where one-fifth of the total crop was rated good to excellent. Reports from Manitoba provincial government indicated that crop conditions in the province were better than in 2021 and that yields are anticipated to be near normal. Dry conditions continue to be a concern for parts of Saskatchewan, where precipitation remains below average.

In Eastern Canada, much of southern Ontario has experienced drier-than-average conditions, while eastern parts of Ontario and most of Quebec received higher-than-average rainfall. In general, temperatures over the last month of the growing season were slightly cooler than normal.

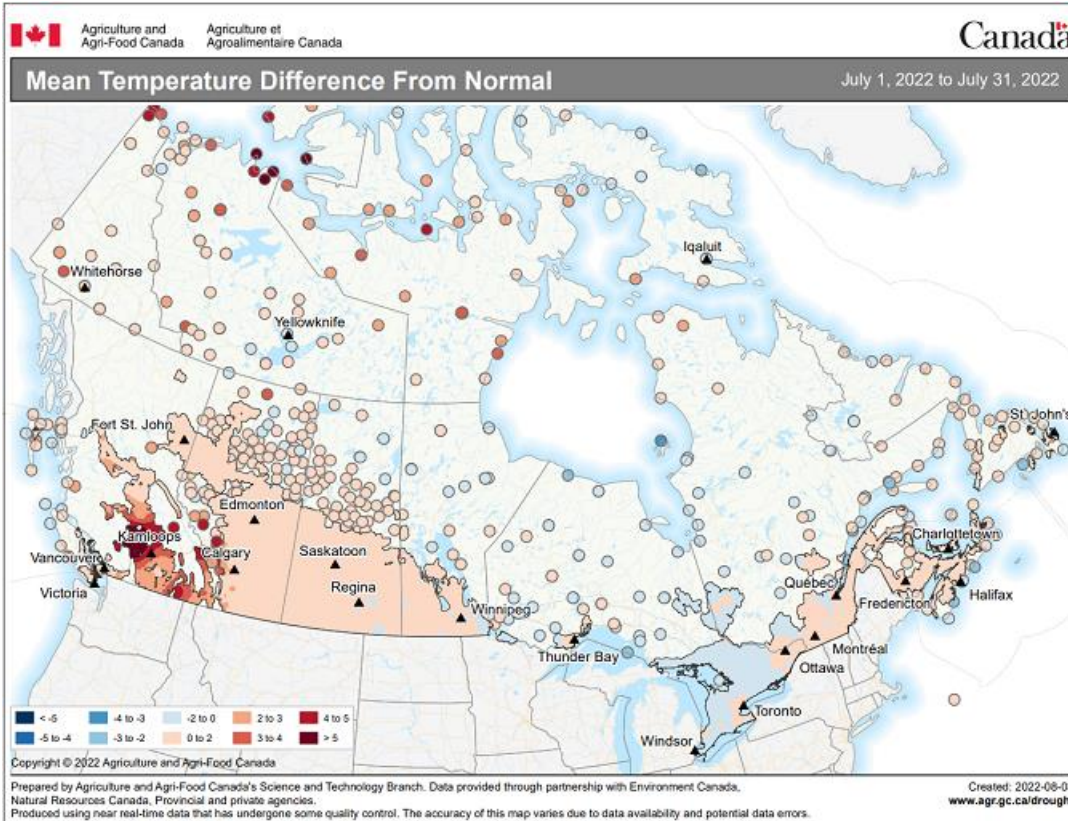
For several years, Statistics Canada has relied upon proven satellite technology and agroclimatic data to model preliminary estimates of crop yields and production. These methods have been used successfully to produce September yield estimates since 2016, and they replaced those used to produce July yield estimates in 2020. Coarse resolution-based satellite modelling relies on historical averages for harvested area. Final harvested area estimates will be published on December 2, 2022, based on the November 2022 Field Crop Survey.



Map 1 – Departure from average precipitation (in millimetres) from April 1 to August 1, 2022 (during the growing season), by province



**Map 2 – Mean temperature difference from normal (in degrees Celsius) from July 1 to July 31, 2022 (during the growing season), by province**

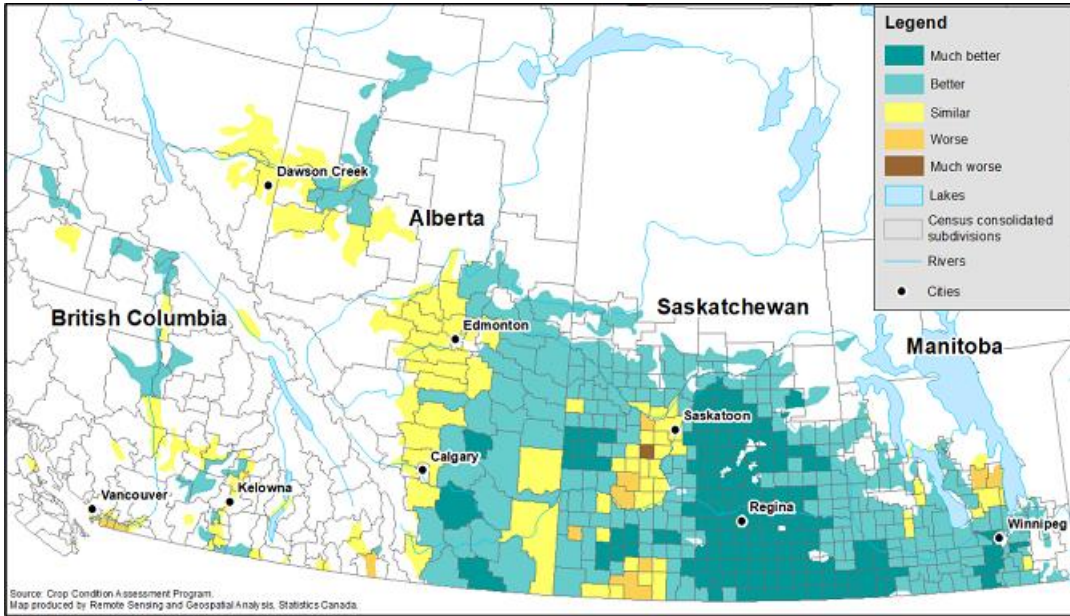


The Crop Condition Assessment Program indicates that overall plant health in the Prairie provinces was similar to higher-than-normal at the end of July, indicating the possibility of normal to much higher-than-normal yields.

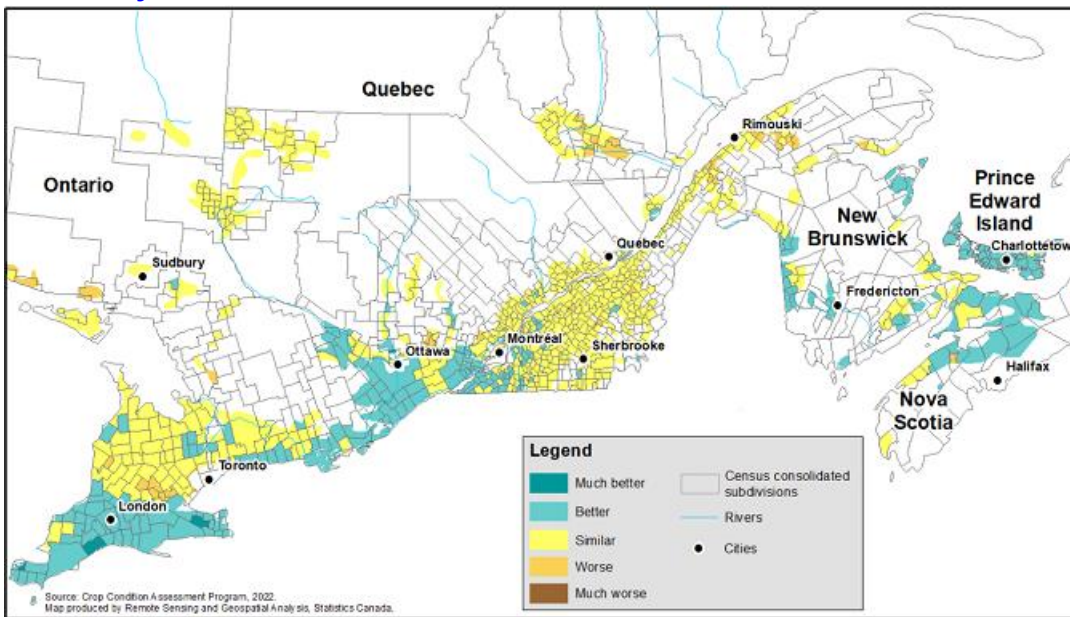
An assessment of Normalized Difference Vegetation Index (NDVI) curves, which are a measure of plant health, indicated that despite a somewhat slower-than-normal start to the growing season, NDVI curves for most areas in Western Canada have exceeded normal NDVI values. In most parts of the Prairies, crops reached peak health in line with normal crop development.

Crop development in Eastern Canada is considered similar to higher-than-normal, as growing conditions have generally been favourable, although lack of moisture in southern Ontario has been a concern for producers.

**Map 3 – Vegetation growth index as of the week of July 25 to July 31, 2022, compared with normal, by census consolidated subdivision for Western Canada**



**Map 4 – Vegetation growth index as of the week of July 25 to July 31, 2022, compared with normal, by census consolidated subdivision for Eastern Canada**



**Wheat production is expected to increase due to higher harvested area and better yields**

Nationally, wheat production is projected to increase by 55.1% year over year to 34.6 million tonnes in 2022, largely attributable to higher anticipated yields, which are expected to rise by 41.6% to 51.1 bushels per acre. Harvested area is also expected to increase by 9.4% to 24.9 million acres.

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The increase in expected total wheat production is largely attributable to spring wheat, which is anticipated to rise by 57.3% to 25.6 million tonnes. This increase is a result of higher anticipated yields (+39.8% to 52.7 bushels per acre) and higher harvested area, expected to increase by 12.5% to 17.8 million acres.

Durum wheat yields are also anticipated to rise (+101.0% to 40.6 bushels per acre), contributing to higher expected durum wheat production (+113.0% to 6.5 million tonnes).

In 2022, wheat yields in Saskatchewan are expected to rise by 55.2% to 43.6 bushels per acre, while harvested area is projected to rise by 12.5%, resulting in a 74.4% increase in production, to 15.4 million tonnes.

Wheat production in Alberta is projected to increase by 79.5% to 11.5 million tonnes compared with 2021, which is largely the result of higher yields (+64.4% to 57.2 bushels per acre), while harvested area is expected to rise by 9.3% to 7.4 million acres.

In Manitoba, wheat harvested area is expected to rise by 11.4% to 3.2 million acres, while yields are anticipated to increase by 20.5% to 57.7 bushels per acre. Total wheat production is anticipated to rise by 34.2% year over year to 5.0 million tonnes.

Wheat production in Ontario (the majority of which is winter wheat) is projected to fall by 22.7% to 2.2 million tonnes year over year as a result of lower harvested acres (-20.6%) and yields (-2.7%).

### **Higher anticipated yields push canola production higher**

Nationally, canola production is expected to rise by 41.7% to 19.5 million tonnes in 2022, as growing conditions in the Prairies improved considerably relative to 2021, pushing yields higher (+47.8% to 40.5 bushels per acre).

Saskatchewan is expected to produce 43.2% more canola in 2022 than in 2021, at 9.7 million tonnes. Yields are projected to increase by 50.8% to 37.7 bushels per acre, while harvested area is expected to fall by 5.1% to 11.3 million acres.

Canola production in Alberta is expected to increase by 49.1% to 6.5 million tonnes. The projected increase in yields (+53.3% to 44.3 bushels per acre) is expected to offset the decrease in harvested area (-2.8% to 6.4 million acres).

In Manitoba, yields are expected to rise by 31.5% to 43.0 bushels per acre, offsetting an anticipated 3.8% decrease in harvested area to 3.3 million acres, resulting in an expected 26.5% production increase to 3.2 million tonnes.

### **Corn for grain production is projected to increase due to higher yields**

Nationally, corn for grain production is projected to increase by 6.0% to 14.8 million tonnes in 2022, because yields are anticipated to rise to 163.9 bushels per acre (+2.3%), and harvested area is expected to rise to 3.6 million acres (+3.6%).

In Ontario, the largest corn-for-grain-producing province, production is expected to rise by 3.5% to 9.8 million tonnes, due to higher harvested area (+5.0% to 2.2 million acres), offsetting lower yields (-1.5% to 172.6 bushels per acre).

Corn for grain production in Quebec is projected to rise by 4.2% to 3.6 million tonnes. Yields are expected to rise by 3.5% to 158.0 bushels per acre, while harvested area is expected to increase by 0.6% to 887,400 acres.

### **Soybean production is expected to rise due to higher yields**

Nationally, soybean production is projected to increase by 1.8% year over year to 6.4 million tonnes in 2022. Yields are expected to rise by 3.7% to 45.3 bushels per acre, while harvested area is anticipated to decrease by 1.7% to 5.2 million acres.

Soybean production in Ontario is expected to edge up 0.1% in 2022 to 4.1 million tonnes. Harvested area is expected to rise by 5.5% to 3.1 million acres, while yields are anticipated to fall 5.0% to 49.0 bushels per acre.

In Manitoba, soybean production is projected to increase by 13.6% to 1.1 million tonnes in 2022. Harvested area is projected to decrease by 14.3% to 1.1 million acres. However, yields are projected to rise by 32.5% year over year to 35.9 bushels per acre because moisture conditions have improved.

In Quebec, soybean production is projected to increase by 4.4% to 1.2 million tonnes as a result of higher anticipated yields (+0.5% to 44.4 bushels per acre), while harvested area is expected to rise by 3.7% to 950,900 acres.

## Barley and oat production is projected to rise

Higher barley yields compared with 2021 (+57.7% to 67.8 bushels per acre) are projected to more than offset lower anticipated harvested area (-14.8% to 6.3 million acres). As a result, barley production is expected to rise by 34.3% year over year to 9.3 million tonnes in 2022.

Oat production is projected to rise by 59.2% to 4.5 million tonnes. Harvested area is expected to increase by 10.6% to 3.2 million acres, and yields are expected to rise by 44.1% year over year to 90.2 bushels per acre in 2022.

### Note to readers

*This release provides the preliminary production estimates for 2022. The estimates are produced using model-based data.*

*The approaches employed in producing these estimates are in line with the AgZero initiative underway at Statistics Canada, which aims to produce high-quality estimates using modelling, administrative data, and other non-traditional survey-based approaches.*

*The Field Crop Reporting Series produces data from Quebec, Ontario, Manitoba, Saskatchewan and Alberta for all occasions during the crop year (from March to December). However, data are collected twice a year (in the June field crop survey on seeded areas and in the November field crop survey on final crop production) for Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick and British Columbia, which represent between 2% and 4% of national totals.*

*As of July 2014, for these provinces, July production estimates are calculated using the final estimates of the last three crop years. The harvested area is first estimated based on the ratio obtained from the sum of harvested areas of the last three years over the sum of the seeded areas of the last three years. This average ratio is applied to their current year's seeded acreage from the June survey. This harvested area is then multiplied by the average yield of the last three years to estimate production.*

*Final survey-based production estimates for 2022 will be released on December 2, 2022, and are subject to revision for two years.*

*On September 14, 2022, Statistics Canada will release updated modelled yield and production estimates for field crops in Canada as of August 31, 2022. These data are derived from remote sensing, survey and agroclimatic data sources.*

*July model-based data were used to produce estimates of crop yield and production in Manitoba using parcel-level crop insurance data, while Alberta, Saskatchewan, Ontario and Quebec are modelled at the Census Agricultural Region level. For more information regarding the model-based data please visit [An Integrated Crop Yield Model Using Remote Sensing, Agroclimatic Data and Crop Insurance Data](#).*

*Readers are also invited to consult the [Crop Condition Assessment Program](#) web application, which is an additional tool to assess growing conditions of field crops during the crop year. Readers can monitor a vegetation index of crop land on a weekly basis.*

**Table 1**  
**July estimates of production of principal field crops, Canada**

	2020	2021	2022	2020 to 2021	2021 to 2022
	thousands of tonnes			% change	
Total wheat	35 437	22 296	34 572	-37.1	55.1
Durum wheat	6 571	3 038	6 473	-53.8	113.0
Spring wheat	26 092	16 250	25 565	-37.7	57.3
Winter wheat	2 774	3 007	2 534	8.4	-15.7
Barley	10 741	6 959	9 346	-35.2	34.3
Canola	19 485	13 757	19 499	-29.4	41.7
Chick peas	214	76	134	-64.5	75.6
Corn for grain	13 563	13 984	14 825	3.1	6.0
Dry field peas	4 594	2 258	3 610	-50.9	59.9
Flaxseed	578	346	488	-40.2	41.1
Fall rye	475	466	447	-1.9	-4.0
Lentils	2 868	1 606	2 906	-44.0	80.9
Mustard seed	100	61	196	-39.5	223.3
Oats	4 576	2 808	4 471	-38.6	59.2
Soybeans	6 358	6 272	6 382	-1.4	1.8

Source(s): Table [32-10-0359-01](#).

**Available tables:** [table 32-10-0359-01](#).

**Definitions, data sources and methods:** [survey number 5225](#).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; [infostats@statcan.gc.ca](mailto:infostats@statcan.gc.ca)) or Media Relations ([statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca](mailto:statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca)).