

# Canada - Census of Agriculture 2021

**Statistics Canada, Agriculture Division**

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## Identification

### SURVEY ID NUMBER

CAN\_CA\_2021\_v01\_M\_v01\_A\_ESS

### TITLE

Census of Agriculture 2021

### ABBREVIATION OR ACRONYM

CA 2021

### COUNTRY

Name	Country code
Canada	CAN

### STUDY TYPE

Agricultural Census [ag/census]

### SERIES INFORMATION

The Constitution Act of 1867 determined that a census would be executed every ten years starting in 1871. However, the rapid expansion in Western Canada made necessary to carry out the census with a higher frequency. Starting in 1896, a separate Census of Agriculture (CA) was executed every five years in Manitoba and, beginning in 1906, in Alberta and Saskatchewan. Since 1956, the five-year agricultural census was extended to the entire country and conducted in conjunction with the Census of Population. The CA 2021 was the twenty-third agriculture census conducted in Canada.

### ABSTRACT

The Census of Agriculture 2021 provides a comprehensive profile of the physical, economic, social and environmental characteristics of Canada's agriculture industry, and it is conducted every five years. Reliable statistical information on the agriculture sector is crucial for the benefit of society and the economy as a whole as it supports economic and social planning.

### KIND OF DATA

Census/enumeration data [cen]

### UNIT OF ANALYSIS

Agricultural holdings

## Scope

### NOTES

The census scope covered agricultural activities (crop and livestock production).

The questionnaire collected data on:

1. Identification and general characteristics
2. Agricultural production (including crops)
3. Farm vehicles, machinery and equipment
4. Livestock and poultry
5. Land use
6. Fertilizer and manure management

### KEYWORDS

Keyword
Land
Crops
Livestock and poultry

## Farm machinery and equipment

## Coverage

### GEOGRAPHIC COVERAGE

The Census of Agriculture 2021 covered the entire country.

### UNIVERSE

The statistical unit was the "farm" or agricultural holding, defined as a unit that produces agricultural products and reports revenues or expenses for tax purposes to the Canada Revenue Agency. The farm operator was defined as a person responsible for the management decisions made in the production of agricultural commodities.

## Producers and sponsors

### PRIMARY INVESTIGATORS

Name
Statistics Canada, Agriculture Division

## Sampling

### SAMPLING PROCEDURE

The frame for the Census of Agriculture 2021 was created by combining information from Statistics Canada's Business Register with information from the latest set of tax remittances and selecting the set of units that met the conditions of the new farm definition. The selection process used the detailed tax information of the establishments on the Business Register to select those that have reported agricultural commodity revenues or expenses, signaling that they were involved in agricultural activities. To ensure complete coverage, some establishments with weaker or no agricultural activity signals from tax data were identified using other available sources of information and were included in the frame. In addition, a subset of records was added to the frame to account for operations that entered business since 1 January 2020, and for which no tax signals could be recorded because of the timing of tax filing.

The CA was a complete enumeration of all agricultural holdings in the country.

## Data collection

### DATES OF DATA COLLECTION

Start	End
2021-02	2021-11

### DATA COLLECTION MODE

Computer Assisted Web Interview [cawi], Computer Assisted Telephone Interview [cati], Mail-out Mail-back

### DATA COLLECTION NOTES

Large and complex agricultural operations were offered the opportunity to respond to a paper questionnaire (mail-out/mail-back method), and have their data collected via the Large Agricultural Operations Statistics (LAOS) program from Statistics Canada's headquarters, or through the CAWI method. Voice broadcast, automated telephone calls and emails were used to remind respondents to respond. Census data were also collected directly from administrative registers and the Census of Population 2021 to reduce the response burden.

Online questionnaire responses for the CA were received via the Collection Management Portal (CMP) and registered in the Census Processing System (CPS) hourly. The CPS also registered interviewer responses received through the Census Help Line and non-response follow-up (NRFU) on a regular basis during collection and follow-up.

For rare and unique agricultural operations, the CATI method was used to collect data. On 3 May 2021, all agricultural operations in the standard universe received an invitation letter by mail to complete the CA questionnaire using the CAWI method. This letter contained a secure access code to fill out the questionnaire online, the web address of the CA 2021 website, and a telephone number to allow the respondent to contact the Census Help Line and complete the Census of Agriculture questionnaire over the phone or request a paper questionnaire by mail.

The non-response follow-up process was carried out using the CATI method. To enhance the information from the CA 2021 and minimize respondent burden, Statistics Canada combined census data with information from other surveys or administrative sources: operating arrangement, revenues and expenses from the Canada Revenue Agency, and the age and sex of each farm operator from the CP.

#### **\*\*QUALITY ASSURANCE\*\***

Quality evaluation activities were carried out to ensure that census data was reliable and met user needs. These activities were based on the Statistics Canada Quality Guidelines. New or enhanced methods, procedures and technologies were implemented to improve all areas of the process - from collection, to processing, validation, and dissemination of the data. To reduce coverage errors, some modelled records were added to the population to represent farms that started their operations in 2020 or 2021. They were not sent for collection but rather had data modelled or imputed for them. To encourage participation, Statistics Canada provided respondents with three ways to respond to the Census of Agriculture. Non-respondents were sent several reminders through different media to encourage them to respond. A certification review committee composed of senior management and subject-matter experts assessed certification reports containing results of the analysis, including a summary of the investigation undertaken, the data anomalies found and addressed, and recommendations for publication. The committee decided that the data were fit for use and ready to be published and made available to data users. For the first time in CA history, quality indicators will accompany most estimates published for the 2021 Farm and Farm Operator Data release. These quality indicators take into account the variances because of the uncertainty associated with imputation and the random tabular adjustment disclosure avoidance method used to maintain the confidentiality of respondents. A full coverage evaluation is completed for each census and was made available to the public via the CA website on 11 May 2022.

## **Data Processing**

#### DATA EDITING

After the initial processing, CA data was moved to the newly Integrated Business Statistics Program (IBSP) system to handle the edit and imputation requirements. The IBSP system included the following three main processing tasks:

- Data import and integration
- Edit and imputation
- Estimation

Data validation was performed in parallel with data collection and data processing in the IBSP. Values were validated at the aggregate and the farm level and compared to information from CA 2016 and other alternative data sources.

#### **\*\*DATA PROCESSING NOTES\*\***

The CAWI and CATI methods ensured direct data collection.

Paper questionnaires received from Canada Post were also registered and transmitted to the CMP on an hourly basis. A data capture mode within the CMP was developed to capture paper questionnaires. This data capture mode allowed data to be captured directly. The data from the CMP were initially processed in a dedicated Central Processing System (CPS\*Pro). Initial processing included four main tasks:

- Geographical identifiers edit
- Response coding
- Deduplication, to identify and remove duplicate questionnaires from the CA database
- Agriculture-population linkage

## **Access policy**

#### CONTACTS

<b>Name</b>	<b>Affiliation</b>	<b>Email</b>	<b>URL</b>
Agriculture Division	Statistics Canada	STATCAN.infostats-infostats.STATCAN@canada.ca	<a href="#">Link</a>

## ACCESS CONDITIONS

Census results were disseminated online. The data request procedure and conditions are available at <https://www.statcan.gc.ca/en/microdata/data-centres/access>.

## Metadata production

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## DDI DOCUMENT ID

DDI\_CAN\_CA\_2021\_v01\_M\_v01\_A\_ESS\_FAO

## PRODUCERS

<b>Name</b>	<b>Abbreviation</b>	<b>Affiliation</b>	<b>Role</b>
Agriculture Division		Statistics Canada	Metadata producer
Statistics Division	FAO	Food and Agriculture Organization of the United Nations	Metadata adapted for FAM

## Data Dictionary

Data file	Cases	Variables
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