

Census of Agriculture 2016

Statistics Canada, Agriculture Division

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Identification

SURVEY ID NUMBER

CAN_2016_CA_v01_M_v01_A_ESS

TITLE

Census of Agriculture 2016

ABBREVIATION OR ACRONYM

CA 2016

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 2016 was the twenty-second agriculture census conducted in Canada.

ABSTRACT

The Census of Agriculture 2016 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 labor
3. Land
4. Crops
5. Agricultural Practices
6. Livestock and poultry
7. Farm machinery and equipment
8. Expenses

KEYWORDS

Keyword
Agricultural labor
Land

Crops
Livestock and poultry
Farm machinery and equipment

Coverage

GEOGRAPHIC COVERAGE

The Census of Agriculture 2016 covered the entire country.

UNIVERSE

The statistical unit was the agricultural operation, defined as "a farm, ranch, or other agricultural operation that produces at least one agricultural product intended for sale". Operator is defined as a person responsible for the management and/or financial decisions made in the production of agricultural commodities.

Producers and sponsors

PRIMARY INVESTIGATORS

Name
Statistics Canada, Agriculture Division

Sampling

SAMPLING PROCEDURE

The observed population for the Census of Agriculture (CA) 2016 was identified based on the data from Statistics Canada's Business Register that includes the establishments which responded to the CA 2011 or had reported to a recent Statistics Canada agriculture survey and confirmed agricultural activity. In addition, establishments that declared agricultural activities in their tax remittances or have reported a core business activity connected to agriculture to the Canada Revenue Agency were also eligible for the census. However, due to operational and budgetary constraints, only those establishments with strong signals of agricultural activity were included. During data collection, new potential farms identified through the Census of Population 2016 questionnaire were also added to the observed population. The CA 2016 was a complete enumeration of all agricultural operations in the country.

Data collection

DATES OF DATA COLLECTION

Start	End
2016-04	2016-09

DATA COLLECTION MODE

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

DATA COLLECTION NOTES

No enumerators were directly involved in field data collection for the Census of Agriculture (CA) 2016, because remote data collection methods were used in the CA 2016. In the CA 2016, respondents had the option of responding online (CAWI), completing a paper questionnaire (Mail-out Mail-back), contacting the Census Help Line and providing the census information using CATI.

On 2 May 2016, all known farm operations in Canada received an invitation letter to fill out their CA 2016 questionnaire on the internet using a Secure Access Code provided in the letter. The addresses were identified from Statistics Canada's Business Register, which is populated from the previous census, other agriculture surveys, and tax data filings.

If a paper questionnaire was preferred, the respondent could call the CA helpline to obtain the paper questionnaire by mail. Farm operators either completed and submitted an electronic form on the internet (using CAWI method) or mailed back the paper form directly to Statistics Canada in the National Capital Region. If it was determined that a questionnaire had not been received, or if data were missing, a follow-up was conducted by telephone (CATI method).

****QUALITY ASSURANCE****

Data validation is an important piece of quality assurance in Statistics Canada, so it has a directive for the validation of statistical outputs. In the guidelines for the validation of statistical outputs, validation was defined as "the set of activities which ensured that weighted estimates and aggregate statistics were reliable, sound and defensible" and "the processes used to identify and correct inconsistencies in both micro-data and macro-data through the use of diagnostic tools and subject matter expertise". For CA, the data validation process was the first opportunity for CA analyzes to review and analyse the reliability and validity of CA data post-collection and made edits to the data when necessary. CA disseminates data across numerous dimensions, requiring the validation of data down to the geographic CCS level. CA was obligated to ensure the reliability and accuracy of data at this level in order to meet the requirements of numerous custom data requests.

An example of a data validation process, CA reviewed and verified the complete and accurate information from every agricultural operation in Canada. This process also identified those 'missing' farms that were counted in 2011 but did not return a questionnaire in 2016 or, conversely, farms that did not exist in 2011 but have been identified on subsequent agriculture surveys since then.

A post-enumeration survey called "the coverage evaluation survey" (CES) was conducted from October to December 2016 to determine the level of CA 2016 net undercoverage for three important variables: farm count, land area and total sales. The CES gave an estimated under coverage for the CA 2016 of 4.9 percent for farm count, 1.5 percent for total farm area, and 0.2 percent for total sales. After closing the field data collection, a data validation and certification process was conducted.

questionnaires

QUESTIONNAIRES

A single questionnaire, available in both English and French, was used for data collection in the CA 2016. The CA 2016 questionnaire covered 19 out of 23 essential items recommended in the WCA 2020.

data_processing

DATA EDITING

Once captured, the data were loaded onto an automated processing system that passed them through detailed edit, follow-up, and imputation processes. Data was first subjected to a series of rigorous quality control and processing edits to identify and resolve problems related to inaccurate, missing, or inconsistent data entries. An employee by Statistics Canada followed up on the problematic records that could not be resolved in edit, to clarify the missing or incomplete data. Finally, situations that could not be resolved through either edit or follow-up were handled with an imputation procedure that replaced each missing or inconsistent response either with a value consistent with the other data on the questionnaire or with a response obtained from a similar agricultural operation.

****DATA PROCESSING NOTES****

Direct data collection was ensured by CAWI and CATI methods. Paper questionnaires were sorted, electronically scanned, and the data automatically captured using Intelligent Character Recognition (ICR) or Optical Mark Recognition (OMR). Any responses that were not recognized by the ICR/OMR processes were sent to a Statistics Canada employee, who reviewed the questionnaire image and entered the response data into the system.

Access policy

CONTACTS

Name	Affiliation	Email	URL
Agriculture Division	Statistics Canada	STATCAN.infostats-infostats.STATCAN@canada.ca	Link

ACCESS CONDITIONS

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

Metadata production

DDI DOCUMENT ID

DDI_CAN_2016_CA_v01_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
Agriculture Division		Statistics Canada	Metadata producer
Statistics Division	ESS	Food and Agriculture Organization of the United Nations	Metadata adapted for FAM
Development Data Group	DECDG	World Bank Group	Metadata adapted for World Bank Microdata Library

DDI DOCUMENT VERSION

Identical to a metadata (CAN_CA_2016_v01_M_v01_A_ESS) published on FAO microdata repository (<https://microdata.fao.org/index.php/catalog>). Some of the metadata fields have been edited.

data_dictionary

Data file	Cases	variables
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study_resources

questionnaires

2016 Census of Agriculture, Questionnaire

title 2016 Census of Agriculture, Questionnaire
filename CAN_CA_2016_questionnaire.pdf

reports

2016 Census of Agriculture, Report

title 2016 Census of Agriculture, Report
filename CAN_CA_2016_report.pdf

Canada - Census of Agriculture 2016, Main Results

title Canada - Census of Agriculture 2016, Main Results
filename CAN_CA_2016_main-results.pdf

technical_documents

Data sources and methodology

title Data sources and methodology
filename CAN_CA_2016_methodology.pdf
