Brazil - Agricultural Census 2017

Brazilian Institute of Geography and Statistics (IBGE, Instituto Brasileiro de Geografia e Estatística), Technical Office for the Census of Agriculture (GTA, Gerência Técnica do Censo Agropecuário)

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Identification

SURVEY ID NUMBER
BRA_2017_CA_v01_M_v01_A_ESS

TITLE
Agricultural Census 2017

TRANSLATED TITLE
Censo Agropecuário 2017

COUNTRY

Name	Country code
Brazil	BRA

STUDY TYPE
Agricultural Census [ag/census]

SERIES INFORMATION
The first agricultural census in Brazil was conducted in 1920. Since 1940, censuses have been conducted every ten years until 1970, and every five years thereafter, until 1985. The following censuses were conducted in 1996 and 2006. The 2017 census was its eleventh edition.

ABSTRACT
The Agricultural Census is the main and most complete study of agricultural structure and production in the country. The 2017 Agricultural Census, like previous ones, followed the recommendations of the 2020 World Agricultural Census Program established by the Food and Agriculture Organization of the United Nations, which aim to ensure the comparability of results for all countries implementing agricultural censuses.

KIND OF DATA
Census/enumeration data [cen]

UNIT OF ANALYSIS
Agricultural holdings

Scope

NOTES
The census scope covered agricultural (crop and livestock) activities, as well as forestry and aquaculture activities.

The questionnaire collected information on:
1. Identification and location of the agricultural holding
2. Characteristics of the agricultural holding and the producer
3. Distribution of the holding area based on legal status
4. Distribution of the holding area according to land use
5. Characteristics of the agricultural holding
6. Grain storage units
7. Agriculture machines and vehicles
8. Number of people employed
9. Livestock and poultry on the establishment
10. Aquaculture
11. Sericulture
12. Fishing
13. Activities of plant production: forestry, horticulture, floriculture, etc.
14. Other revenues
15. Financing
16. Expenses

KEYWORDS

Keyword
Structure of Agriculture
Land use
Crops
Livestock and Poultry
Labor in the Agricultural Sector
Forestry
Fishery
Aquaculture
Agricultural Equipment and Facilities

Coverage

GEOGRAPHIC COVERAGE

The census covered the entire country, including urban areas with agricultural holdings previously identified by the Brazilian Institute of Geography and Statistics (IBGE, Instituto Brasileiro de Geografia e Estatística).

UNIVERSE

The statistical unit was the agricultural holding, defined as any production unit dedicated wholly or partially to agricultural, forestry, and aquaculture activities, subject to single management, with the objective of producing for sale or subsistence, regardless of size, legal form (own, partnership, lease, etc.) or location (rural or urban). The agricultural holdings were classified according to the legal status of the producer as: individual holder; condominium, consortium, or partnership; cooperative; incorporated or limited liability company; public utility institutions (church, NGO, hospital), or government. Household gardens and leisure farms were not considered census units.

Producers and sponsors

PRIMARY INVESTIGATORS

Name
Brazilian Institute of Geography and Statistics (IBGE, Instituto Brasileiro de Geografia e Estatística), Technical Office for the Census of Agriculture (GTA, Gerência Técnica do Censo Agropecuário)

Sampling

SAMPLING PROCEDURE

The Agricultural Census 2017 used list and area frames. Two list frames were used, an existing list and a special collect list. The existing list consisted of a list of all agricultural holdings from the Agricultural Census 2007, containing about five million units, partially updated in subsequent field operations, and integrated with georeferenced addresses in the smartphones that were given to enumerators. The special collect list consisted of 30 000 large agricultural holdings whose data collection required an off-farm interview. Units belonging to the special collect list were marked as blocked to prevent enumerators from collecting them.

Regarding the area frame, the sources were the Population and Housing Census 2010 and the cartographic documentation which was updated prior to the census fieldwork. The area frame consisted of census sectors, which were assigned to each enumerator who thoroughly explored the area to identify all agricultural holdings, regardless of whether they existed in the lists. The lists were updated confirming, including, and excluding agricultural holdings.

The Agricultural Census 2017 was a complete enumeration of all agricultural holdings in the country.

Data collection

DATES OF DATA COLLECTION

Start	End
2017-10	2018-02

DATA COLLECTION MODE
Computer Assisted Personal Interview [capi] Computer Assisted Web Interview [cawi]

DATA COLLECTION NOTES
Data collection was undertaken through face-to-face interviews using CAPI with smartphones. CAWI method was used to collect data from less than 1000 large holdings that voluntarily agreed to use this method. The electronic questionnaire was structured to allow for more details on specific production issues on all holdings with the following thresholds:
- 50 head of cattle
- 50 head of pigs
- 200 head of poultry
- 50 permanent crops

Approximately 29 240 people were trained for the fieldwork, out of which 24 894 were hired as field enumerators and field supervisors. Field supervision was also provided by the Technical Office for the Census of Agriculture (GTA, Gerência Técnica do Censo Agropecuário) of the IBGE. The following temporary staff participated in Agricultural Census 2017: 18 census office staff, 18 755 enumerators, 4867 fieldwork supervisors, 1272 municipal census staff, 350 regional census staff, 174 IT and data processing specialists, 171 subject matter specialists, and 344 administrative census staff. Permanent staff were involved in IT, geography, administrative, and dissemination activities.

QUALITY ASSURANCE
The devices used for data collection included an automatic monitoring system of the enumerators' field work and visualization of their movements. The software for the questionnaire was designed with automated skipping, which avoided some expected inconsistencies and saved time during the interview. Data processing was done automatically in real time on smartphones to avoid serious errors in microdata, through alert messages and record marking for supervision.

A supervision system named Integrated Management and Control System (Sistema Integrado de Gerenciamento e Controle, SIGC) developed by IBGE was used in the local and central offices that provided several reports to verify the quality and coverage of the data based on the results of the Agricultural Census 2006 and the management indicators of the collection, generated in line with the census. The total area of agricultural holdings was compared to the municipal area. Data from previous agricultural surveys conducted by IBGE were compared with municipal level census data, allowing supervisors to obtain early information to check for inconsistencies.

For some cases of data collected via CAWI, a help center was provided to assist respondents and ensure questionnaire completeness. Dubious data was controlled with the respondent where possible. The data collection period in some cases was extended to ensure a complete enumeration of the area. Data for larger holdings and companies was collected by supervisors and permanent staff, using the Special Collect List. High resolution satellite images of the entire country were included with previous census data to find the georeferenced and new agricultural holdings, and the roads and pathways to reach them.

Questionnaires

QUESTIONNAIRES
An electronic questionnaire was used for data collection. The Agricultural Census 2017 covered all 23 essential items and all recommended frame items recommended for the WCA 2020 round.

Data Processing

DATA EDITING
Data editing was performed by supervisors on the collected and processed data after that it was transmitted to the data collection stations and to the state and central offices. Most of the software used for data capture, processing, analysis, and

tabulation were developed by IBGE. The main tabulation system was the IBGE Automatic Recovery System (SIDRA, Banco de Tabelas Estatísticas), used for the dissemination of disaggregated data on the web. SAS software was used to manipulate microdata to build special queries and tabulations. Imputation was applied to inconsistent data and to prices of self-consumption products, using the nearest neighbour imputation method within classes defined by activities engaged by agricultural holdings. The Canadian Census Edit and Imputation System software (CANCEIS) developed by Statistics Canada was used for imputation.

DATA PROCESSING NOTES
Data processing was done in real time on the devices and then transmitted to the data collection stations and to the state and central offices. In the electronic questionnaire developed by IBGE staff, verifications and predefined skips were introduced by the Technical Office for the Census of Agriculture. The verifications corresponded to the analysis and check of internal and external consistency of the answers. Wrong, suspicious, and non-completed answers were flagged and needed review by the respondent. Collected data was stored daily after validation in the Statistical Metadata Bank (BME, Banco Multidimensional de Estatísticas), an Oracle database.

Access policy

CONTACTS

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ACCESS CONDITIONS
For data access and use information please contact the Brazilian Institute of Geography and Statistics (IBGE) at https://www.ibge.gov.br/en/customer-service.html.

Metadata production

DDI DOCUMENT ID
DDI_BRA_2017_CA_v01_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
Technical Office for the Census of Agriculture (Gerência Técnica do Censo Agropecuário)	GTA	Brazilian Institute of Geography and Statistics (IBGE, Instituto Brasileiro de Geografia e Estatística)	Metadata producer
Statistics Division	ESS	Food and Agriculture Organization of the United Nations	Metadata adapted for FAM

Data Dictionary

Data file	Cases	Variables