

Ireland - Census of Agriculture 2020

**Central Statistics Office of Ireland, Agriculture Surveys Section, Government of
Ireland, Department of Agriculture, Food and the Marine**

Report generated on: December 16, 2025

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Identification

SURVEY ID NUMBER
IRL_2020_CA_v01_M_v01_A_ESS

TITLE
Census of Agriculture 2020

ABBREVIATION OR ACRONYM
CA 2020

COUNTRY

Name	Country code
Ireland	IRL

STUDY TYPE
Agricultural Census [ag/census]

SERIES INFORMATION
Ireland has participated in all WCA rounds. Agricultural censuses were conducted in 1929, 1949, 1960, 1970, 1980, 1991, 2000, and 2010.

ABSTRACT
The Census of Agriculture (CA) is a census of all agricultural holdings that takes place every ten years. It is part of an EU-wide programme of agricultural censuses carried out in 2020 under EU Regulation 2018/1091 on integrated farm statistics and conducted under the World Programme for the Census of Agriculture (<https://www.fao.org/world-census-agriculture/en/>). The purpose of the CA 2020 is to compile statistics on the structure of all agricultural holdings, labor force, animal housing, and manure management practices on Irish Farms. The data is required to meet national and EU needs for regular statistics on agricultural activity.

KIND OF DATA
Census/enumeration data [cen]

UNIT OF ANALYSIS
Agricultural holdings

Scope

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

The three questionnaires collected information on:

1. Farm Management and Agricultural Training
2. Livestock and Poultry
3. Land Use
4. Cattle Housing
5. Pig Housing
6. Poultry Housing
7. Manure and Chemical Fertilizer Management
8. Farm Diversification
9. Labor Input on the Farm in the past 12 months
10. Farm Safety Plan
11. Farm Succession

KEYWORDS

Keyword
Structure of Agriculture

Land use
Crops
Livestock and Poultry
Labor in the Agricultural Sector

Coverage

GEOGRAPHIC COVERAGE

The CA 2020 covered the entire country.

UNIVERSE

The statistical unit was the agricultural holding, defined as a single unit, both technically and economically, that has a single management and that undertakes economic activities in agriculture in accordance with Regulation (EC) No 1893/2006 belonging to groups A.01.1, A.01.2, A.01.3, A.01.4, A.01.5 or to the "maintenance of agricultural land in good agricultural and environmental condition" of group A.01.6 within the economic territory of the Union, either as its primary or secondary activity, as it is stated in the Regulation (EU) No. 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics. Regarding activities of class A.01.49, only the activities "Raising and breeding of semi-domesticated or other live animals" (except for raising insects) and "Beekeeping and production of honey and beeswax" were included.

The following thresholds were applied:

- 5 ha of utilized agricultural area (UAA)
- 2 ha of arable land
- 0.5 ha of potatoes (including seed potatoes) - outdoor, or fresh vegetables (including melons) and strawberries - outdoor
- 0.3 ha of fruits, berries, nuts (excluding citrus fruits, grapes, and strawberries), and other permanent crops including other permanent crops for human consumption - outdoor
- 0.2 ha of seeds and seedlings, aromatic, medicinal, and culinary plants, flowers, and ornamental plants, and nurseries - outdoor
- 0.01 of greenhouses or cultivated mushrooms
- 1.7 livestock units

The animal housing and manure management module covered the subset of the population of agricultural holdings defined before with at least one cattle, pig, sheep, goat, or poultry.

Producers and sponsors

PRIMARY INVESTIGATORS

Name
Central Statistics Office of Ireland, Agriculture Surveys Section
Government of Ireland, Department of Agriculture, Food and the Marine

PRODUCERS

Name	Abbreviation	Role
Agriculture and Food Development Authority	Teagasc	Technical assistance

FUNDING AGENCY/SPONSOR

Name	Abbreviation
Statistical Office of the European Communities	Eurostat

Sampling

SAMPLING PROCEDURE

The CA 2020 comprised a core module and three thematic modules on labor force and other gainful activities, rural development, and animal housing and manure management. Some census data for the core and the animal housing and manure management modules, and all census data related to the rural development thematic module were collected directly from administrative registers.

The Agriculture Register, hosted in the Central Statistics Office (CSO) Data Management System, was the list frame used in the CA 2020. The register was finalized after the Farm Structure Survey (FSS) 2016, it was updated annually and again in April 2020 (prior to the Census) to add 4 687 new births identified as newly active holdings in the Department of Agriculture, Food, and the Marine's administrative databases. Administrative databases include IACS, Bovine, Ovine, Poultry and Organic farming Registers.

The CA 2020 used a combination of complete and sample enumeration. The core and the rural development modules were collected using complete enumeration, while data for the supplementary thematic modules referred to labor force and other gainful activities, and animal housing and manure management were collected using sample enumeration. The sample was selected using a one-stage stratified random sample of size 10 000 for each supplementary thematic module. The stratification variables were the NUTS 3 regions and size, location, and specialization of the holdings. The sample size was designed and calculated at NUTS 2 to meet the precision requirements set out in Annex V of Regulation (EU) 2018/1091. Such as a relative standard error less than 5 percent where prevalence in the relevant population for: land variables in core data is 7.5 percent or more of the UAA in the region; livestock variables is 7.5 percent or more of the livestock units in the region and 5 percent or more of the variable in the country. Sample size was allocated between strata using proportional allocation. The intensive pig and poultry enterprises were selected using complete enumeration. Sampling weights were adjusted for non-response within the sampling strata. Different samples from the original census frame were chosen for each of the two modules.

RESPONSE RATE

The response rate was just under 80 percent for core data collected from non-administrative sources (including the postal system).

Data collection

DATES OF DATA COLLECTION

Start	End
2020-09	2021-01

DATA COLLECTION MODE

Mail Questionnaire [mail], Computer Assisted Web Interview [cawi], Computer Assisted Telephone Interview [cati]

DATA COLLECTION NOTES

The CA 2020 involved 2 statisticians, 2 higher executive officers (HEO), 3 executive officers (EO), 4 clerical officers (CO), and 12 temporary clerical officers (TCO). Other Central Statistics Office (CSO) staff from support sections from graphic design, printing, IT, Irish office and more, assisted the census in relevant stages.

The CA was conducted by post (mail-out/mail-back), CAWI and CATI methods. CAWI and CATI were used to collect information on grassland, farm labor, livestock that did not fall into the cattle, sheep pigs or poultry categories, animal housing and manure management variables. Information on livestock, crops, and rural development were collected from administrative registers: IACS, bovine register, ovine register, organic farming register, and rural development measures.

QUALITY ASSURANCE

The CSO carried out different procedures to assure and assess quality: training courses, use of best practices, quality guidelines, and self-assessment. The CSO Quality Strategy 2020-2023 has led to several improvements in quality procedures. A new metadata management application (Colectica) is being utilized across the office which has modernized and standardized the processes around questionnaire design, variable specifications, and metadata management. This will be very valuable over the remainder of the decade for IFS data collections. Several actions were carried out to minimize non-sampling errors in the CA 2020: update of registers to minimize under-coverage; explanatory notes or handbooks for enumerators or respondents to minimize measurement errors; reminders, imputation, and weight adjustment to minimize non-response error; different team members worked on the same questionnaires at each stage of the process to minimize processing errors.

Questionnaires

QUESTIONNAIRES

Three questionnaires were used in the CA 2020: one for the core module, and two for the supplementary thematic modules referring to labor force and other gainful activities, and animal housing and manure management. The questionnaires covered 22 out of 23 essential items recommended in the WCA 2020. Data for 18 essential items were collected from administrative sources.

In an effort to reduce the response burden on farmers, the questionnaires contained no questions relating to cattle and crops as sufficient data is available from existing administrative data sources from Department of Agriculture, Food and the Marine (DAFM).

Data Processing

DATA EDITING

Staff used the CSOs Data Management System (DMS) software to correct data. Ineligible digits and data were highlighted and corrected on screen by referring to previous returns or by deduction. Then the data was passed through a range of pre-programmed edit checks carried out by staff from local departments. Arithmetic checks, range checks, and comparison with previous rounds of data collection and with other domains in agricultural statistics were carried out and the data was examined. These edits were processed through the DMS before more edits were carried out in SAS and R-Studio software. Imputation was carried out using deductive, cold deck and random hot deck methods. Administrative data within the reference year was available for close to 100 percent of the unit non-responders. This also meant that it could be determined if there was true item non-response when data was missing. The nature of the core data collected using the census instrument and the available auxiliary information meant that accurate deductive imputation could be performed. Most of the imputation was performed in SAS with imputation of a small proportion of INSPIRE grid cell codes performed using SAS in parallel with R-Studio. For data compilation, design weights obtained from the inverse of the inclusion probabilities adjusted for non-response within sampling strata were used.

DATA PROCESSING

Direct data capture was ensured by the CAWI and CATI method. For paper questionnaires, Optical Character Recognition (OCR) was used. This software was configured to flag errors or erroneous data at scanning.

Data Appraisal

ESTIMATES OF SAMPLING ERROR

Sampling errors were calculated and of the 65 eligible cases for the precision requirements in relation to Regulation (EU) 2018/1091, five were not met.

Access policy

CONTACTS

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ACCESS CONDITIONS

The data request procedure and the data request form are available at "How to apply for microdata access?" at <https://ec.europa.eu/eurostat/web/microdata/farm-statistics>.

Metadata production

DDI DOCUMENT ID

DDI_IRL_2020_CA_v01_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
Agriculture Surveys Section		Central Statistics Office of Ireland	Metadata producer
Statistics Division	ESS	Food and Agriculture Organization of the United Nations	Metadata adapted for FAM

Data Dictionary

Data file	Cases	Variables
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