



FINLAND – AGRICULTURAL CENSUS 2020 – METADATA REVIEW

1. Historical outline

The first Agricultural Census (AC) in Finland was conducted in 1910. The country participated in all WCA rounds. AC were carried out in 1929/1930, 1950, 1959, 1969/1970, 1980, 1990, 1999/2000, and 2010. The metadata review and data presented here correspond to the AC 2020.

2. Legal basis and organization

Legal framework

The legal basis for the AC 2020 was provided by:

- the Statistics Act (280/2004), adopted on 23 April 2004;
- Act on the Food and Natural Resources Statistics (562/2014), of 27 June 2014;
- Regulation (EU) 2018/1091 of the European Parliament and of the Council of 18 July 2018 on integrated farm statistics and repealing Regulations (EC) No 1166/2008 and (EU) No 1337/2011; and
- Commission Implementing Regulation (EU) 2018/1874 of 29 November 2018 on the data to be provided for 2020 under Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated farm statistics and repealing Regulations (EC) No 1166/2008 and (EU) No 1337/2011, as regards the list of variables and their description.

Institutional framework and international collaboration

The Statistical services under the Natural Resource Institute Finland (Luke) was responsible for the implementation of the AC 2020.

Census staff

The AC 2020 involved four supervisors and eight staff from the project group. A subcontractor developed the IT-system.

3. Reference date and period

Reference day: 1 April 2020, for livestock and animal housing.

Reference periods:

- from 1 January to 31 December 2020, for land variables, irrigation and soil management practices, manure management, labour, land use; and
- from 1 January 2018 to 31 December 2020, for rural development measures.

4. Enumeration period

The AC fieldwork was conducted from December 2020 to April 2021, and it was reported a response rate of 88 percent. Census activities was not affected in 2020 due to COVID-19, as the data collection started at the end of 2020.

5. Scope of the census and definition of the statistical unit

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

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 of insects) and "Bee-keeping and production of honey and beeswax" were included.

Community-level data

There were no community-level data collected along with the census.

6. Census coverage

Geographic coverage

The AC 2020 covered the entire country.

Cut-off threshold and other exclusions

The AC 2020 covered agricultural holdings with at least EUR 2 000 of standard output.

7. Methodology

Methodological modality for conducting the census

The AC 2020 used the modular approach combined with the use of administrative registers. It comprised a core module and three thematic modules on labour force and other gainful activities, rural development, and animal housing and manure management. Some census data for the core module, and all census data related to the thematic module on rural development were collected directly from administrative registers.

Relation to other censuses

No relationship with other censuses.

Frames

The Statistical register of agricultural and horticultural enterprises was the list frame used in the AC 2020, which is updated annually.

Complete or/and sample enumeration methods

The AC 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 labour force and other gainful activities, and animal housing and manure management were collected using sample enumeration.

Sample design

In the AC 2020, the sample for both modules was selected using a stratified one-stage random sampling. The stratification variables were unit location (NUTS 3), unit size (five classes), and unit specialization (ten classes). For the module referred to labour force and other gainful activities, there was one full coverage stratum, and for the module on animal housing and manure management, there were 162 full coverage strata including 339 holdings. Total amount of strata was 773 including 45 630 holdings. The sample was allocated using proportional and Neyman allocation. The allocation variable was the economic size of the farm. This allocation method resulted in a sample drawn randomly yet evenly from all over Finland, and in such a way that the sampling ratio increased with farm size. For livestock farms, the sampling ratio was greater than for farms engaged in crop production, as variances in economic size for livestock farms were greater than for farms engaged in crop production. SAS was used to select the samples.

Data collection methods

In the AC 2020, data was collected using CATI and CAWI methods, according to the decision of the holder. Also, the following administrative registers were used for data collection: Integrated Administration and Control System (IACS), bovine register, organic farming register, genetically modified crops register, rural development measures, sheep and goat register, pig register, The Register of Completed Education and Degrees (Statistics Finland), Finnish Farmers' Social Insurance Institution (Mela), and Incomes Register (Finnish Tax Administration).

Questionnaire(s) and items covered

One questionnaire was used in the AC 2020. All 23 essential items recommended in the WCA 2020 were covered by the questionnaire and by administrative registers.

8. Use of technology

CAWI and CATI were used for field data collection. Census data were collected directly from administrative registers to reduce the response burden. Census results were disseminated online.

9. Data processing

Direct data capture was ensured by the CAWI and CATI method. Staff from central department validate data using SAS and Eurostat's validation through eDamis. Almost all variables were collected from administrative registers. The core variable working hours by farm manager was collected through the questionnaire and was imputed using the sequential hot deck method. Processing errors were minimized using cross check of results to earlier figures. Statistical department used SAS and only staff in the Statistical department were allowed to make corrections. Results were estimated using SAS.

10. Quality assurance

Although there was no quality management system, some procedures were carried out to assure and assess quality such as training courses and the use of best practices. Sampling errors were estimated using the CLAN software developed by Statistics Sweden. Several actions were carried out to minimize non-sampling errors in the AC 2020: pre-testing questionnaire and training of enumerators to minimize measurement errors. There was no coverage error since the agricultural and horticultural statistical register is updated annually.

11. Data and metadata archiving

Microdata was not anonymized. Researchers can get microdata to the scientific research. This requires written application for the data. The researchers are not allowed to publish microdata. The microdata is stored in a database schema.

12. Data reconciliation

Revision policy of AC 2020 follow's release guidelines of the Advisory Board of Official Statistics of Finland. These guidelines are set up according to European requirements and is publicly available. According to these guidelines, errors discovered in published data are corrected as soon as they are discovered and information of major errors, and revisions will be published earliest possible and advance notice will be given when needed. The descriptions of revisions are published at <http://stat.luke.fi>.

13. Dissemination of census results and microdata

The first preliminary data were published on 18 May 2021. There were five preliminary statistics releases between May 2021 and January 2022 regarding energy consumption of agriculture and horticulture, farmland management and irrigation, livestock living conditions, agriculture and horticulture labour force, and other entrepreneurship in agriculture and horticulture. Final releases were published between March and June 2022 and are available at <https://www.luke.fi/en/statistics/search-statistics-publications?q=agricultural%20census%202020&topics=>. There were no paper publications of the results. Data is available in public domain at the Centres for Economic Development, Transport, and the Environment (ELY Centres) level.

14. Data sources

Eurostat. 2022. *Integrated Farm Statistics - National quality reports 2020: Finland* [online]. Luxembourg. [Cited 13 February 2023]. https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_fi.htm

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