



THE NETHERLANDS – Agricultural Census 2020 – Metadata Review

1. Historical outline

Until the 1980's the country undertook a General Census of Agriculture every ten years. However, due to rapid changes in the structure of the agriculture sector and respondent fatigue, it was decided to suspend these censuses and include in the annual surveys a number of questions on structural aspects. The subjects covered in the annual surveys include therefore a range of production-related data and selected questions on structural aspects which may change from time to time. In addition, subjects of a more specialized nature may be included on an ad-hoc basis. The metadata review and data presented here refer to the Agricultural Census (AC) 2020.

2. Legal basis and organization

Legal framework

The Statistics Netherlands Act, 20 November 2003, (Bulletin of Acts and Decrees 516) establishes Statistics Netherlands as the executive office for statistics. It also provides right of access to administrative data in governmental registers and datasets. The amendment to the Act of 1 January 2017 established the Advisory Board, which is responsible for advice on multi-year and work programme of Statistics Netherlands. The agricultural census is part of these programmes. The AC 2020 was implemented in accordance with Regulation (EU) 2018/1091 of the European Parliament and of the Council of 18 July 2018 regarding integrated statistics on agricultural holdings that regulates and details the information that the countries of the European Union must provide.

Institutional framework and international collaboration

Statistics Netherlands was the responsible institution to conduct the AC 2020. There was an AC working group represented by the Ministry of Agriculture, Nature and Food Quality, the Netherlands Enterprise Agency (RVO), Statistics Netherlands and multiple other institutions. The census was a joint effort of the Ministry of Economic Affairs, especially its executive service RVO, and Statistics Netherlands. Agreements on the division of tasks were recorded in a contract between the Ministry and Statistics Netherlands, and an agreement on data delivery between RVO and Statistics Netherlands.

Census staff

Approximately 15 full-time equivalent persons were involved in the agricultural census operation (survey developers, IT and data processing specialists, communication specialists, subject matter specialists, statisticians, project managers and supervisors).

3. Reference date and period

Reference day:

- 1 April 2020, for livestock and animal housing facilities.
- 15 May 2020, for insurances, land tenure, fruits, mushrooms, greenhouse.

Reference periods:

- year 2020, land use;
- 12-month period ending on 1 April 2020, for manure management and labour force;
- From 2018 to 2020, for rural development support.

4. Enumeration period

Data collection for the AC 2020 started in March 2020 and ended on 15 October 2020. From 15 May 2020 onwards, there were cutbacks in place for subsidy applications; by then, already well over 90 percent of respondents had answered. Data collection period was barely affected by Covid-19 because data was collected through CAWI-method and from administrative sources.

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

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

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 of ISIC 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.

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 threshold applied in the AC 2020 was EUR 3 000 standard output (SO)¹.

7. Methodology

Methodological modality for conducting the census

The AC was composed of a core module and three thematic modules on labour force and other gainful activities, rural development, and animal housing and manure management. However, the classical approach (one-off complete enumeration) combined with the use of administrative registers was used in the AC 2020. Some census data for the core module and for the animal housing and manure management module, and all census data regarding the rural development module were collected directly from administrative registers.

Relation to other censuses

No relationship with other censuses.

Frames

The AC relies on the Administrative Farm Register (AFR) which is built up from and continuously updated by the Business Register (BR) and other administrative sources.

Complete or/and sample enumeration methods

The AC 2020 was conducted on complete enumeration basis of all agricultural holdings.

Sample design

No sampling was used.

Data collection methods

In the AC 2020, data was collected only through the CAWI method. In case of respondents did not respond, reminders were sent multiple times if necessary. The response rate was greater than 95 percent. Data for the core module and the animal housing and manure management module were partially collected from administrative registers, while the rural development module was completely sourced from them. The administrative sources extensively used in the AC 2020 were: the AFR, the Integrated Administration and Control System (IACS), the Identification and Registration of Livestock (I&R), rural developments measures, and Manure Transport Register.

Questionnaire(s) and items covered

One questionnaire was used in the AC 2020. The questionnaire covered 20 out of 23 essential items recommended in the WCA 2020²

¹ SO is an economic measure of the size of an agricultural holding. SO is based on the average annual yield per crop or animal category and is expressed in EUROS.

² The following essential items were not covered: (i) 0407 Number of permanent crop trees in scattered plantings; (ii) 0501 Type of livestock system; and (iii) 0801 Household size by sex and age groups.

8. Use of technology

CAWI was 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 method. The Netherlands Enterprise Agency (RVO) was responsible for data entry, data coding, and data validation at the record level. Validation, compilation, analysis, and data dissemination was done by Statistics Netherlands. The data was validated through different checks implemented in the internet application: data format, completeness, routine, range, relational, data flagging, comparison with previous rounds of the data collection, and with other domains in agricultural statistics. Several software tools were used during processing and validation (SPSS, R, and Excel). After data collection and pre-processing by RVO, data was transferred to Statistics Netherlands for final data compilation, which includes checks and analyses at different levels (micro, meso, and macro). Unit non-response was handled by imputation of information from the previous census. To minimize processing errors, the information system was extensively tested, and manual actions were minimized as much as possible. All corrections were made using scripts (no manual adjustments), and before data was released, extensive checks and analyses were performed.

10. Quality assurance

Statistics Netherlands adheres to the international standard of quality ISO 9001 and it is also certified for this standard; a peer review was conducted in 2015. There exists a quality management system to assure and assess quality through different procedures: training courses, use of best practices, quality guidelines, benchmarking, compliance monitoring, self-assessment, peer review, external review or audit, and certification. Regarding the AC 2020, some actions were taken to reduce non-sampling errors (over-coverage, under-coverage, misclassification, and measurement): compulsory registration in BR, obligation to fill in the census questionnaires, the dependency of subsidies on registration, continuously update and checks on the completeness of register, pre-testing questionnaire, pre-filled questions, etc. The questionnaire was designed, reviewed and validated by a group of experts. Survey instrument errors were likely to be minimal, because the internet application in use is already operational for several years. Remaining errors were mostly detected at early stage, either by automated control programs, or from plausibility checks during the analysis phase.

11. Data and metadata archiving

All microdata sets (output) remain on the dedicated server at Statistics Netherlands. Before statistical results were released, all data were checked for the risk of disclosure. Statistics Netherlands has several micro-data services for research: customized research, conducted by Statistics Netherlands; and own research using data from Statistics Netherlands, for researchers working at an organisation authorized by the Central Commission for Statistics (CCS). To comply with retention periods, input data will be deleted after several years. Metadata, programming scripts and output data will be archived on the dedicated server at Statistics Netherlands.

12. Data reconciliation

There was no reconciliation process of AC 2020 data.

13. Dissemination of census results and microdata

The first provisional results on main crops at country level were published by the end of June 2020, and for all the regular census subjects at country level were published by the end of September 2020. The first complete set of preliminary results (all regular census subjects at country and regional level) was published in November 2020. The final results from the AC 2020 were published on 19 March 2021. The dataset was sent for validation to Eurostat in August 2021. The results from the modules on animal housing and manure management, and rural development were not published at the national level (besides possibly some dedicated articles later on). All dissemination was via the Statline database (<https://opendata.cbs.nl/#/CBS/en/navigatieScherm/thema?themaNr=81094>) and articles on Statistics Netherlands website. The regional data is available at NUTS-2. Access to census microdata is also provided.

14. Data sources

Eurostat. 2021. *Integrated Farm Statistics - National quality reports 2020: Netherlands* [online]. Luxembourg. [Cited 14 December 2021]. https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_nl.htm

Statistics Netherlands (CBS). 2021. Landbouwtelling. In: *CBS* [online]. Den Haag, the Netherlands. [Cited 14 December 2021]. https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/landbouwtelling_

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