



DENMARK – AGRICULTURAL CENSUS 2020 – METADATA REVIEW

1. Historical outline

Denmark has participated in all WCA rounds since 1930 in the years 1929, 1949, 1959, 1970, 1979, 1989, 1999/2000, 2010, and 2020. The data and metadata here refer to the last participation in 2020.

2. Legal basis and organization

Legal framework

The legal basis for the AC 2020 was provided by:

- the Law on Statistics Denmark No. 610 of 30 May 2018;
- 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 Division of Agricultural Statistics under Statistics Denmark (SD) was responsible for carrying out the AC 2020. Activities were shared between the division of agricultural statistics and a special data collection division.

Census staff

The AC 2020 involved six staff members from Statistics Denmark for a period of ten months. Other staff were partially involved in census activities.

3. Reference date and period

Reference day: 1 June 2020 for cattle, and 19 June 2020 for other livestock and animal housing, and all other stock variables.

Reference periods:

- from 18 April 2019 to 17 April 2020, for land variables;
- from 20 June 2019 to 19 June 2020, for irrigation and soil management practices, manure management, and labour force;
- from 1 January 2018 to 31 December 2020, for rural development measures.

4. Enumeration period

The AC fieldwork was conducted from May to October 2020, and it was reported a response rate of 86 percent. In March 2020, SD was finalizing the digital questionnaire and setting up the IT-systems when the COVID-19 pandemic started. The plans were to submit the questionnaire by mid-May. The digital questionnaire experienced a two-week delay. Personnel teleworking had a limited tangible impact by the pandemic.

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. In some cases, it occurred that a few holders did one declaration for several single units.

Community-level data

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

6. Census coverage

Geographic coverage

Although the AC 2020 covered the entire country.

Cut-off threshold and other exclusions

The following thresholds for agricultural holdings were applied in the AC 2020: (i) five ha of UAA; (ii) EUR 7500 of standard output; (iii) 0.5 ha of fruits, berries, nuts and nurseries, fresh vegetables (including melons) and strawberries, potatoes, or fresh vegetables (including melons) and strawberries – outdoor; (iv) 0.01 ha of greenhouses and mushrooms; (v) two ha of cereals, pulses, root crops, grass and green fodder in rotation, industrial crops, horticultural crops, vegetables and strawberries, ornamental plants, fruits; (vi) 0.2 ha of nurseries, ornamental plants and leguminous plants; (vii) 0.3 ha of pome fruits, stone fruits, berries, nuts, nurseries and other permanent crops, fruits, berries, or nuts and other permanent crops; (viii) ten cattle or sows; (ix) 50 pigs; (x) 20 sheep or goats; (xi) 1000 head of poultry; (xii) 40 fur animals; or (xiii) 1.7 of livestock units.

7. Methodology

Methodological modality for conducting the census

The AC 2020 used the classical approach combined with the use of administrative registers. The AC comprised 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) was used in the AC 2020, even for the thematic modules. Some census data for the core and animal housing and manure management modules, 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 Statistical Business Register (SBR), kept by SD, was the list frame used in the AC 2020, which is continuously updated. In order to ensure that the population is up to date, SD regularly merges SBR with Integrated Administration and Control System (IACS) and the Central Livestock Register (CHR). The assumption is that if a farm applies for crop subsidies or reports livestock to the livestock register, it was expected to be active in agriculture and should accordingly be marked as such in the register of SD.

Complete or/and sample enumeration methods

The AC 2020 was conducted on complete enumeration basis.

Sample design

No sampling was used.

Data collection methods

In the AC 2020, data was collected using CAWI and CATI methods. Also, the following administrative registers were used for data collection: IACS, CHR, the association of Danish fur animals' farmers, and rural development measures.

Questionnaire(s) and items covered

A single questionnaire was used for data collection in the AC 2020. The questionnaire covered 13 out of 23 essential items recommended in the WCA 2020¹.

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 and CATI methods. Data was validated by staff from central department using completeness checks and comparison with previous rounds of data collection. Validation was carried out using Oracle and SAS. Imputation was used to minimize item non-response in the animal housing and manure management module using nearest neighbour imputation. Imputation was carried out using Excel and SAS. The most important reason for item non-response for this module was that these questions were new and could be seen as difficult.

10. Quality assurance

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes. Some procedures were carried out to assure and assess quality in the AC 2020 such as training courses, the use of best practices, compliance monitoring, and self-assessment. The quality policy of SD is available at <https://www.dst.dk/en/OmDS/strategi-og-kvalitet/kvalitet-for-statistikproduktion/kvalitetspolitik>. Several actions were carried out to minimize non-sampling errors in the AC 2020: keep registers up to date to minimize coverage errors; reminders, follow-up interviews and imputation to minimize non-response errors; imputation to minimize processing errors.

11. Data and metadata archiving

Data is available in the form of basic tables on farm structure at <https://statistikbanken.dk/20202>. National metadata was published and is available at <https://www.dst.dk/Site/Dst/SingleFiles/GetArchiveFile.aspx?fi=692551035967&fo=0&ext=kvaldel>. Microdata was anonymized using recoding of variables, reduction of information, merging categories, and rounding.

12. Data reconciliation

There was no reconciliation process of AC 2020 data.

13. Dissemination of census results and microdata

Final results were published on 27 May 2021 via a news release available in Danish at <https://www.dst.dk/da/Statistik/nyheder-analyser-publ/nyt/NytHtml?cid=25865>. Online database with statistical tables is available at <https://statistikbanken.dk/statbank5a/default.asp?w=1536>. The lowest geographical level for which data is in public domain is NUTS level 2. A general publication, Statistical ten-years review, with aspects of society, population, economy, employment, and business life is published yearly and has a few very basic tables on number of farms, crops and livestock. The volume corresponding to 2020 is available at <https://www.dst.dk/da/Statistik/nyheder-analyser-publ/Publikationer/VisPub?cid=33400>. Anonymized microdata is available for researchers, although it is not very common that researchers request microdata from AC.

14. Data sources

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

¹The following essential items were not covered: (i) 0103 Legal status of agricultural holder (type of holder); (ii) 0107 Main purpose of production of the holding; (iii) 0201 Total area of holding; (iv) 0202 Area of holding according to land use types; (v) 0402 Area of temporary crops harvested (for each temporary crop type); (vi) 0406 Area of productive and non-productive permanent crops in compact plantations (for each permanent crop type); (vii) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); (viii) 0601 Use of agricultural pesticides; (ix) 0801 Household size by sex and age groups; and (x) 1201 Presence of aquaculture on the holding.

15. Contact

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