
GERMANY - Census of Agriculture 2010 – Explanatory notes

1. Historical Outline

Farm Structure Surveys were conducted as representative surveys at two-year intervals from 1975 until 2007. In addition, some of the variables were requested every four years of all holdings (enumeration of all agricultural holdings). From 1999 until 2007 the survey was organized as an “integrated survey,” and all production and structural variables were requested in May of the respective survey year at the same time. The Census of Agriculture was conducted at intervals of 8 to 12 years)

2. Legal Basis and Organization

National legislation:

- (1) Law on Statistics for Federal Purposes (Bundesstatistikgesetz - BStatG) of 22 January 1987 (Federal Law Gazette I p. 462, 565) as amended,
- (2) Law on Agricultural Statistics (Agrarstatistikgesetz - AgrStatG) of 17 December 2009 (Federal Law Gazette I p. 3886) as amended,
- (3) Law on Equal Status for Set-Aside and Agriculturally Used Areas (Gesetz zur Gleichstellung stillgelegter und landwirtschaftlich genutzter Flächen) of 10 July 1995 (Federal Law Gazette I p. 910) as amended.

The Census of Agriculture (FSS) and the Survey of Agriculture Production Methods in Germany are decentralised. Coordination and statistical methodology is the responsibility of the Federal Statistical Office with the participation of the statistical offices of the Länder. This includes the preparation of the survey documents including pre-tests and instructions, the questionnaire, the sample plan, the use and role of administrative data, and programs for data processing including data entry, edits, imputations, estimation and tabulation.

3. Reference Period or Date

The Census reference date was 1 March 2010 for all livestock, keeping places and keeping methods.

The reference period for arable land, land use, crops and manure is the previous 12 months, labour force March 2009 until February 2010, and rural development characteristics, the three previous years (2008 - 2010).

4. Enumeration period

The 2010 Census of Agriculture including the Survey of Agricultural Production Methods was conducted between January 2010 (posting of the questionnaires) and January 2011 (reminders to late and non-respondents).

5. Definition of the Statistical Unit

EC Regulation 1166/2008 defines the statistical unit as an agricultural holding.

“Agricultural holding“ or “holding“ means a single unit, both technically and economically, which has a single management and which undertakes agricultural activities listed in Annex I to the European Parliament and Council Regulation (EC) No 1166/2008 within the economic territory of the European Union, either as its primary or secondary activity. In addition, the EU regulation determines thresholds of size.

In line with the EU legislation, Germany applied the following threshold:

- five hectares of utilised agricultural area,

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- 0.5 ha of hops or tobacco or of area for fruit growing, or under vines or tree nurseries; or of outdoor vegetable or strawberry cultivation
 - 1.0 ha of permanent outdoor crops, or
 - 0.3 ha of outdoor flower or ornamental plant cultivation, or
 - 0.1 ha of crops under glass or other accessible protective cover or mushrooms
 - ten cattle or 50 pigs or ten breeding sows, or 20 sheep, or 20 goats, or 1,000 poultry,

The threshold excluded 14.9 percent of the holdings from the group of respondents; nonetheless 99.1 percent of the total UAA and 99.4 percent of the total livestock units were covered by the Census of Agriculture.

There was a special national provision for holdings with forests: holdings that had none of the above minimum areas or livestock, but did possess 10 ha and more of area with forest or short-rotation plantations (so-called forestry enterprises) were included in the group of respondents for the (national) FSS conducted in the scope of the Census of Agriculture. These holdings were surveyed simultaneously with the Census of Agriculture using a highly reduced programme of variables from the FSS. However, they are not considered agricultural holdings.

6. Geographic Coverage

Covered the entire country.

7. Exclusions and Cut-Off Thresholds

None noted other than those stated as the minimum threshold of agricultural activity in the national definition of an agricultural holding.

8. Methodology

Use of the FAO Modular Approach

No

Framework

In preparation for the 2010 Census of Agriculture, an extensive survey to identify the population (SiP) was conducted in 2009 to update the group of respondents. In addition to the results of this 2009 survey (SiP), administrative data were used (e.g. trade association data) to update the statistical farm register. The statistical farm register served for preparation, execution, and processing of the Census of Agriculture (cf. Agricultural Statistics Law Article 97), e.g. to identify all survey units, to determine and designate the obligation to respond, for addressing, and for sending the survey documents. The frame of the 2010 Census of Agriculture is composed of approximately 300,000 holdings.

Complete or Sample Enumeration Methods

The Census of Agriculture is a complete enumeration of all agricultural holdings. The Survey of Agricultural Production Methods is a sample survey.

Sample Design

The 2010 Census of Agriculture was a complete enumeration of all agricultural holdings.. The Survey of Agricultural Production Methods (SAPM) was a sample survey, using a stratified sampling procedure. The sample was a single-stage (stratified) sample with approximately 78,000 holdings in the sample, the Agricultural Statistics Law sets a maximum sample size of 80,000 holdings.

Collection Method

According to Article 4 (1) of Regulation (EC) No 1166/2008, administrative data could be used for the Census of Agriculture provided this data were of at least equal quality to data obtained from statistical surveys and referred to the same survey periods. The administrative data were the Integrated Administration and Control System (IACS) supplemented by the central database on animal identification and registration (Herkunftssicherungs und Informationssystem für Tiere, HIT).

In addition, administrative data on the farming of genetically modified crops, on participation in rural development measures and for ascertaining the geographical coordinates of holding locations were used. Data on the amount of genetically modified crops grown were taken from the "Site register on the release and cultivation of genetically modified organisms" kept by the Federal Office of Consumer Protection and Food Safety (BVL). The information on the granting of support for rural development for individual holdings was supplied by administrative data of the competent authorities of the Länder. To determine the geographical coordinates of the holding locations the official building coordinates of the land survey offices were used as administrative data source.

The quality of the IACS data differs widely regionally, the extent of the use of IACS data were also not uniform among the Länder. When the data of an administrative data source was considered insufficient, respondents were asked to provide the information to the Census of Agriculture.

Respondents completed their questionnaires sent to them by the statistical offices of the Länder, provided them using the Internet, or gave the information to interviewers or the various survey offices. The data obtained in this manner were taken and verified in an online dialogue or following automated data capture in AGRA 2010.

The data available in the various administrative sources had to be combined for each holding both with one another and with the data gained through the survey. Since this was done at the individual holding level, farmers were asked to provide their administrative data number(s) to combine the surveyed data with the data from IACS and HIT and to store these for each holding in the statistical farm register.

Questionnaire(s)

EU Regulations require information on holding location and geo-coordinates, legal status, ownership and tenancy, land use and crops grown, irrigation, livestock, organic farming, machinery (mandatory in 2013 FSS), renewable energy installations, other gainful activities, socio-economic circumstances (full and part-time farming), labour force (family, non-family, contractors), agricultural and vocational training of the manager, inclusion in rural development support programmes, soil tillage methods, crop rotation, and erosion protection, livestock keeping places and keeping methods, animal grazing, manure application and manure storage and treatment facilities, maintenance and installation of landscape features.

In addition, for national purposes Germany included variables on intercropping (cultivation of crops on arable land between two subsequent main crops); on rents and for new leases and rent changes within the past two years; on determination of profit and turnover taxation; on farm succession. There were four questionnaires:

- 1) main questionnaire for holdings in the sample,
- 2) main questionnaire for holdings not in the sample, but in the complete count,
- 3) a questionnaire for the follow-up survey on irrigation and
- 4) a questionnaire for forestry enterprises (national part of the survey).

Controls to Minimize Non-Sampling Errors

The AGRA 2010 processing program is the chief instruments for completeness and plausibility checks and there was an extensive use of follow-up with respondents.

Innovative Methodologies

The use of administrative data for the Census of Agriculture whenever the data were of at least equal quality to data obtained from statistical surveys and referred to the same survey periods.

9. Data Entry, Edits and Imputations, Estimation and Tabulation

The AGRA 2010 processing program was the chief instrument for edits of completeness and plausibility. This program undertakes 727 mandatory error tests, 211 possible error tests and 11 automated corrections.

- Mandatory errors must be adjusted in all cases (e.g. missing age for an individual) and are obvious, unacceptable erroneous information or inconsistencies in correlations of data.
- Possible errors occur when information or correlations of information are possible, but either are improbable or rare, taking into consideration the operating and economic circumstances in agriculture, or originate from chronologically different individual surveys and therefore need not necessarily match (e.g. maximum controls). In such cases, it is checked whether and, if so, in what way correction of the relevant information is necessary through a follow-up interview with the holding or, from case to case, drawing on other information.
- Automatically adjusted errors are errors that can be corrected without a doubt and unequivocally based on the available information without follow-up interviews or data matching (e.g. by inserting missing total values).

Once the tabulated results are available a manual control was carried out for factual and mathematical accuracy. It refers to the results within a table and a comparison of tables. Then, the results are compiled for publication taking data protection and confidentiality provisions into account.

10. Data Dissemination and Use

The Federal Statistical Office makes the results of the 2010 Census of Agriculture available at the national and regional level (NUTS1, nomenclature of the *unités territoriales statistiques*) as total figures. The results are represented in uniform national structure of row and column heading and in the greatest degree of detail.

The statistical offices of the Länder publish their results based on the publication programme agreed between the Federal Statistical Office and the statistical offices of the Länder, which incorporates specifications for the size classes identified in the row heading of the table and for regional classification. It is at the discretion of the statistical offices of the Länder to go beyond the minimum publication programme with their publications.

The entire tabulation program is subject to an agreed, nationwide confidentiality rules to prevent the possibility of individual data being exposed. In tables with total results, individual data are deleted on principle and replaced with a dot. Ensuing confidentiality prevents the mathematical ascertainment of the confidential information. The confidential values are contained in the totals. Tables with representative results are published in thousands with one decimal place on principle. Rounding differences are not adjusted.

At the national level, extensive results of the Census of Agriculture were published, which are of great interest for agricultural policy, for associations, scientific institutions, consultants and, of course, for the farmers themselves in the agricultural policy discussion. The results, and new coverage thresholds, show how the farm and market structure of the agricultural holdings

in Germany are changing. They portray the earning situation in agriculture and illustrate the role played by agriculture in rural regions and in climate and environmental protection. Initial preliminary results of the 2010 Census of Agriculture were presented at a press conference 27 January 2011 at the “Green Week” in Berlin including extensive accompanying literature entitled “Who produces our food?” This literature and other tables as well as overviews were also available on the website of the Federal Statistical Office.

11. Census Data Quality

After completion of the final Census of Agriculture results, the estimates were matched with those of previous surveys. No significant or unexpected differences were noted. The inconsistencies identified during the processing phase were corrected by means of research; hence the publications of the final Census of Agriculture results contain no implausible data or data that contradicts other comparable publications. Comparability between the Census of Agriculture results and results from other sources are usually not given, since coverage thresholds differ, variable definitions deviate from one another and reporting periods do not match.

12. Data Sources

Eurostat:

http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_census_2010

Final report:

http://ec.europa.eu/eurostat/documents/749240/749313/DE_NMR_FSS_2010.pdf/2c8bfc71-da54-41a0-85e0-8de85280c4bd

13. Contact

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