
DENMARK - Census of Agriculture 2010 – Explanatory notes

1. Historical Outline

In its present form the agricultural and horticultural survey goes back to 1977 where the separate surveys for agriculture and horticulture were integrated in one. Since then the survey has taken place every year as a questionnaire based survey where the farmer has received a questionnaire by mail with an obligation to complete it. The questionnaire has varied year after year, partly to meet EU requirements, and partly to meet national needs. Furthermore the survey has changed between total censuses and sample surveys. In the following years it has been implemented in a form of censuses: 1977 to 1983, 1985, 1987, 1989, 1999 and 2010.

2. Legal Basis and Organization

Statistics Denmark's Division of Agriculture has the authority and responsibility for the Census of Agriculture. Danish Law places an obligation on all business units, including agricultural holdings and farms, to complete Statistics Denmark questionnaires. Likewise, when requested, all government institutions must send their administrative data to Statistics Denmark.

3. Reference Period or Date

The Census reference date was 14 May 2010 for all characteristics for livestock and other variables where it is meaningful to assign a specific day. Cattle are collected from the livestock register dated 1 June 2010. For crops that are collected from the IACS the date of 16 April 2010 applies. Labour force characteristics, including other gainful activities concern a period of one year prior to the 14 May 2010. Rural Development Characteristics concern three calendar years 2008-2010.

4. Enumeration Period

The Farm Structure Survey was held in 2010 and the Survey of Agriculture Production Methods in 2011 as a sample survey. The 2010 Farm Structure Survey took place between July 7 2010 - when the 52,206 questionnaires were sent to the farmers - and March 2011 following the final telephone reminders. The Survey of Agriculture Production Methods took place between June 25 2011 - when letters and questionnaires were sent to the farmers - and November 2011 following the final telephone reminders.

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 agricultural census 2010 Denmark surveyed all farms heaving at least:

- An agricultural area of at least 5,0 hectares
- A standard output of at least 7.500 Euros
- Fruits, berries and nursery area of at least 0,5 hectares
- Vegetables and strawberries of at least 0,5 hectares
- Greenhouse and mushrooms of at least 1.000 m³
- At least 10 cattle, or 50 pigs, or 10 sows, or 20 sheep, or 20 goats, or 1.000 poultries, or 40 fur animals

A study showed that Danish farms below this threshold have about 1,2 percent of the agricultural area and 0,6 percent of the total standard gross margin of the whole Danish agriculture.

6. Geographic Coverage

Covered the entire country.

7. Exclusions and Cut-Off Thresholds

None beyond those as defined by national definition of agricultural holding.

8. Methodology

Use of the FAO Modular Approach

No

Frame

The frame for the 2010 Danish Farm Structure Survey and the 2011 Survey of Agriculture Production Methods was Statistics Denmark's Business Register with all units marked as "active in agriculture" and with the status as "big" meaning big enough to meet the minimum requirements of Denmark's definition of an agriculture holding.

Complete or Sample Enumeration Methods

The Danish Census of Agriculture was accomplished with two separate survey operations. The 2009-10 Farm Structure Survey was a census and the 2009-10 Survey of Agriculture Production Methods was a sample survey.

Sample Design

The 2010 Farm Structure Survey was a census of all agricultural holdings. The 2011 Survey of Agriculture Production Methods was a sample survey of 15,005 about one third of all farms or agricultural holdings. Farms were first stratified into two dimensions. The first dimension is the type of farming according to the farm typology (12 strata), the second is farm size, measured in terms of total farm sales in Euros according to the data from the 2010 Farm Structure Survey (28 strata). To avoid some very thin strata some size groups were merged. The end result was a sample with a total of 180 strata.

Collection Method

The surveys are based on postal questionnaires, and in addition some telephone interviews and reports sent by Internet. Most of the data comes from administrative sources (mainly IACS register). Data not available in IACS were collected through personalized questionnaire.

For both the Farm Structure Survey and the Survey of Agriculture Production Methods respondents were encouraged to use the Internet but there was limited success. The main reason that Internet reporting was not a great success would be that few farmers had a digital business signature. The digital signature required is one connected to the farmer's business number, and not to be confused with a personal digital signature, which is different.

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 2009 Statistics Denmark removed all crops from the questionnaires. Farmers are now asked if they have applied for crop subsidies and if yes are only required to provide information on a limited set of crops or none at all. If no, they are asked to provide a complete description of all their crops. For holdings having answered yes, Statistics Denmark obtains the crop information from the Integrated Administrative Control System, maintained by the Ministry of Agriculture. Some characteristics from the SAPM were also obtained by the IACS.

Statistics Denmark introduced a similar system for information on cattle. Farmers are asked whether they have cattle, and for farms having answered yes the number of cattle is obtained from the Central Livestock Register. The question on fur animals introduced in 2010 is also a yes/no question; however, the number of fur animals is not collected from the Central Livestock Register but from a register maintained by the Danish Association of Fur Farmers.

Personalized postal questionnaires, Internet based questionnaires as well as some telephone interviews were used.

Controls to Minimize Non-Sampling Errors

Extensive use is made of the country's administrative data that supports the EU programs for agriculture, and stored in the General Agricultural Register. This register is known as the Integrated Administrative Control System, (IACS). The Ministry of Agriculture maintains the IACS and provides information from the Register on an annual basis to Statistics Denmark. All the individual survey information is checked; both manually and by means of computer based validation routines. Questionnaires are also used to a limited extent.

Innovative Methodologies

Use of a great extend of administrative sources that substitute the data collection. Respondents of the Farm Structure Survey and the Survey of Agriculture Production Methods were encouraged to use the Internet version of the questionnaires.

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

Data coming from IACS were transferred directly into the statistical database. The questionnaires were registered and also edited in an Oracle database there were about 150 validation rules where some were meant as warning rules and some were meant as "serious" mistakes meaning the concerned problems has to be solved before the record can be accepted. The software programs used were Oracle, SAS and Excel. All the validation work was done at Statistics Denmark. The final survey register was stored at the PC network of Statistics Denmark as was the case for the special version of the survey register, which Eurostat receives.

10. Data Dissemination and Use

Statistics Denmark's homepage <http://www.statistikbanken.dk> is the most important source of official statistics and publications. Information is available free of charge for everybody having access to the Internet, and the user can choose between Danish and English.

The principle is that as soon as a survey is ready for publication Statistics Denmark publish a brief newsletter of approximately two pages with the main results and highlights. The Danish Farm Structure Survey 2010 was published May 14 2011. At the same time the detailed regional figures were published on the Internet.

11. Census Data Quality

The decision to reduce response burden and substitute the administrative data from the Integrated Administrative Control System (IACS) means the data for both is from the same source. Comparing the survey data to the IACS data served as a check to secure that the data were correctly copied to the survey database.

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/DK_NMR_FSS_2010.pdf/b6daff0-63ea-4543-b0b3-370c4b278a8a

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