

**Documentation of statistics for  
Accounts Statistics for Agriculture 2013**

## 1 Introduction

The purpose of the accounts statistics is to analyze the economics in agriculture including horticulture. Agriculture is divided into conventional and organic farms.

In addition to this, accounts statistics also constitute a substantial input for compiling the national accounts and for EU's information network for Agricultural Book-Keeping, INLB.

The accounts statistics for agriculture are calculated for the first time for 2010, while the statistics for agriculture, horticulture and organic farming have been calculated, respectively since 1916, 1980 and 1996. As from 1 January 2009, the responsibility of compiling these statistics was transferred to Statistics Denmark.

A coherent data time series from 2008 is available from StatBank Denmark. Data time series compiled on the basis of a different subdivision of the farms is available from 1990, 1995 and 1996 for agriculture, horticulture and organic farming, respectively.

## 2 Statistical presentation

The statistics analyze the profit and loss account, balance and investments at the level of farms (enterprise level). The primary statistical data contain detailed accounts items, including items for turnover, purchases, costs, operating result of the year, assets, liabilities and investments. In addition to this, the personal finances of the households are analysed, as information on income outside of agriculture, paid taxes and private consumption is available for some farms.

The farms are broken down by full-time and part-time farms in accordance with the standard working consumption, which is estimated for the various agricultural activities and is applied for the purpose of avoiding an inexpedient impact on the quality of manpower, degree of mechanization and contract operations, which would be a consequence of the application of actual work performance. A full-time farm has a total workload of at least 1,665 hours.

### 2.1 Data description

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The classification according to the economic size is made on the basis of the total standard output (SO) of each individual farm. The SO is calculated for all types of crops and species of livestock as an average of the actual outputs (correspond to the Gross Output) per hectare or per animal in a reference period of 5 years. SO is composed of the different activities on the farm and the type of holding is determined. As a main rule a type of holding is determined when 50 pct. of the total SO is from one specific activity.

## 2.2 Classification system

The account statistics are prepared following the guidelines of FADN (The Farm Accountancy Data Network) [Link](#)

## 2.3 Sector coverage

The statistic covers all agricultural holdings in Denmark.

The aim of the accounts statistics is to be representative of all farms as well as of, respectively, full-time and part-time farms. The statistics cover farms in freehold and jointly owned farms, mainly in the form of partnerships.

## 2.4 Statistical concepts and definitions

0010: Area, at the beginning of the year: The total area of the holding. Owned and rented land under cultivation and rented out land.

0265: Labour input, hours: Total labour input, paid as well as unpaid in hours.

0290: Gross output, DKK 1,000: Income from sales of the production, including internal feeding stuff and seeds for sowing, work performed for others, changes in value of livestock, payment-in-kind to private individuals and paid labour and direct subsidies.

0470: Costs, DKK 1,000: Costs linked to the generation of gross output, including stocks reductions of feeding stuff, fertilizers and other intermediate products. Cost of financing and family remuneration are excluded.

0655: Operating profit, DKK 1,000: Gross output (0290) minus costs (0470).

0660: Costs of financing, agriculture, DKK 1,000: The agricultural part of the costs of financing.

0720: Net profit, DKK 1,000: Operating profit (0655) minus Costs of financing (0660) plus General subsidies (0705).

0732: Net profit after family remuneration, DKK 1,000: Net profit (0720) minus family remuneration (3505).

0735: Investments, DKK 1,000: Total investments: In agricultural assets, other private assets, financial assets and savings for retirement.

0845: Internal financing, DKK 1,000: Internal financing are mainly profit and depreciations.

0850: External financing, DKK 1,000: External financing is mainly bank loans and mortgage loans.

0880: Assets (beginning of the year), DKK 1,000: Value of the holding as well as financial and private assets such as dwelling, car, bank deposits, securities etc.

0960: Liabilities (beginning of the year), DKK 1,000: Liabilities are divided in debts, deferred taxation, tenancy and net capital.

1075: Liabilities (end of the year), DKK 1,000: Liabilities are divided in debts, deferred taxation, tenancy and net capital.

1135: Net capital changes, total, DKK 1,000: Total changes in the net capital during the accounting

year.

1170: Net capital, end of the year, DKK 1,000: Own assets minus debts and deferred taxes at the end of the year.

3505: Family remuneration, DKK 1,000: Calculated as hourly wages times a calculated cost per hour. For 2013 the calculated cost was DKK 185.50 per hour including premiums.

3510: Net output, DKK 1,000: Defined as Operating profit (0655) plus General subsidies (0705) minus tenancy, rent of buildings, leasing and family remuneration (3505).

3515: Calculated interest, DKK 1,000: Calculated as 4 per cent of the value of agricultural assets.

3520: Labour income, DKK 1,000: The labour income shows the workers and the families' ability to create earnings at the farm.

3525: Operating profit, per cent.: The operating margin shows the operating profit compared to the gross output. It is calculated:  $(\text{operating profit (0655)} + \text{General subsidies (0705)} - \text{family remuneration (3505)}) / \text{gross output (0290)} * 100$

3530: Degree of profitability, per cent.: The degree of profitability shows the return of the invested capital in percent. It is calculated:  $(\text{Operating profit (0655)} + \text{general subsidies (0705)} - \text{family remuneration (3505)}) / \text{agricultural assets ultimo} * 100$

3535: Rate of return, per cent.: The rate of return shows how large the return of the own assets has been. It is calculated:  $(\text{Operating profit (0655)} + \text{general subsidies (0705)} - \text{family remuneration (3505)} - \text{tenancy} - \text{other financial costs}) / \text{own agricultural assets}$

3540: Labour income, DKK per hour: The labour income per hour shows the workers and the families ability to create earnings (3520) at the farm per hour.

3542: Farm solvency, per cent (after deferred taxation): Farm solvency shows how large a percent share of the assets which are internally financed after deferred taxation. It is calculated  $(\text{Net capital, end of year}) / \text{Assets, own, end of year} * 100$

3545: Farm solvency: Farm solvency shows how large a percent share of the assets which are internally financed. It is calculated  $(\text{Net capital} + \text{deferred Taxation, end of year}) / \text{Assets, own, end of year} * 100$

3550: Ratio of debts, per cent.: Ratio of debt shows how large a percent share of the assets which are external financed. It is calculated:  $(\text{debt} - \text{tenancy}) / \text{assets} - \text{tenancy} * 100$

## 2.5 Statistical unit

The overall statistical unit is per holding. Furthermore, the holdings are divided into full-time and part-time holdings and additionally categorized in subgroups of main activities such as dairy cattle, other cattle, pig fattening, poultry, field crops, vegetables under glass and in open and many more.

## 2.6 Statistical population

The population in agriculture covers all farms, which according to Statistics Denmark's agricultural and horticultural surveys have a SO at least 15.000 Euros or agricultural farms which have a total arable area -except for forest and garden of 10.0 hectares and over.

## **2.7 Reference area**

Denmark.

## **2.8 Time coverage**

The accounts statistics for agriculture are calculated for the first time for 2010, while the statistics for agriculture, horticulture and organic farming have been calculated, respectively since 1916, 1980 and 1996. As from 1 January 2009, the responsibility of compiling these statistics was transferred to Statistics Denmark.

A coherent data time series from 2008 is available from StatBank Denmark. Data time series compiled on the basis of a different subdivision of the farms is available from 1990, 1995 and 1996 for agriculture, horticulture and organic farming, respectively.

## **2.9 Base period**

Not relevant for these statistics.

## **2.10 Unit of measure**

The variables are measured by many different unit for example, Kroner, percentages, hectares etc.

## **2.11 Reference period**

The accounts statistics are primarily related to calendar-based annual accounts. However, there are also accounts, especially gardening, ending in the period 1 January - 30 June included in the statistics.

## **2.12 Frequency of dissemination**

The statistics are published once every year.

## **2.13 Legal acts and other agreements**

RFO 79/65/EEC as amended contains the obligations of Denmark in relation to EU Farm Accountancy Data Network.

Among the most important regulations are KFO 2237/77 (accounts questionnaire, from the accounting year 2009 KFO 868/2008), KFO 1859/82 (selection of holdings) and KFO 1915/83 (deadlines, payment, etc.).

The regulations can be viewed under: 03.30.30 Accountancy data network in EUs database on legislation: [EUR-Lex - Access to European Union law](#)

## **2.14 Cost and burden**

No response burden is estimated as participation in the survey is voluntary.

## 2.15 Comment

No other information is available.

## 3 Statistical processing

The holdings in the sample are weighted to the population.

The classification according to the economic size is made on the basis of the total standard output (SO) of each individual farm. The SO is calculated for all types of crops and species of livestock as an average of the actual outputs (correspond to the Gross Output) per hectare or per animal in a reference period of 5 years. In former publications the standard gross margin (SGM) has been used. The difference between SO and SGM is that SGM reflects the difference between the gross output and the associated costs per units whereas SO only contain the gross output. In most cases SO should be larger than SGM, however the size of the subsidies which some activities contains can cause SGM to be larger than SO. SO is composed of the different activities on the farm and the type of holding is determined.

In selecting the farms, we have made efforts to include the largest possible number of farms several years in succession.

### 3.1 Source data

The main source for compiling the statistics is accounts data for farms, whose accounts are prepared by accounts offices, which are organized within DAAS. The data for the statistics are collected electronically from the accounts system Ø90, where additional and necessary information is supplemented by the accounts offices. In addition to this, accounts data for a number of enterprises, mainly gardening are collected from private accounts offices, which report the data electronically on questionnaires. Another source is the Agricultural and Horticultural Survey maintained by Statistics Denmark. The register forms the basis for determining the population. Information from the Plant Directorate on the population of organic farms is also used. Information on furred animal farms is collected from Kopenhagen Fur. Finally, register-based data on paid-out subsidies from the Danish Food Industry Agency are used.

The selection plan is optimized according to the Neumann-criteria, including three target variables. The Neumann allocation is based on the observed spread within strata defined by EU-type \* size. the three target variables are Net profit, Debt ratio and investments in agricultural assets and weighted respectively  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{4}$ . The selection is divided into 6 main types of agriculture; conventional full-time and part-time holdings, ecological full-time and part-time holdings, and full-time and part-time horticulture.

### 3.2 Frequency of data collection

Data is collected yearly.

### 3.3 Data collection

Accounts offices, which are organized within DAAS, report data electronically from the accounts system Ø90, where additional and necessary information is supplemented by the accounts offices. In addition to this, accounts data for a number of enterprises, mainly gardening are collected from private accounts offices, which report the data electronically on questionnaires [Reporting form](#). The information from Ø90 are collected as system-to-system reports. Finally, register based information is collected from the Register of Business Statistics by Statistics Denmark, the Plant Directorate, Copenhagen Fur and subsidies from the Danish Food Industry Agency.

### 3.4 Data validation

Before accounts are delivered to Statistics Denmark there are a number of tests, also stop-tests, in the accounting system Ø90 and in the questionnaires. After receiving the data at Statistics Denmark a sophisticated test is performed for each holding. The test is particular sophisticated because individual data are delivered to FADN, DG Agri.

### 3.5 Data compilation

The sample is weighted by use of the SAS program CLAN.

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In selecting the farms, we have made efforts to include the largest possible number of farms several years in succession. In practice, this implies that a maximum of 80 pct. of the agricultural farms that were included in the statistics for a given year were also included in the previous year. For different types of gardening it is not possible to limit the number of repeats because the number of farms in the sample will be inadequate.

#### *Compilation of the accounts statistics*

The average figures per farm for the total population and for sub-groups are estimated as a weighted average. For all agricultural farms and most groupings, a classification into sub-groups according to economic size is used. In some tables, a quartile distribution for central figures (e.g. the net profit) has been conducted for the purpose of analyzing the variation of the key figure in question. The information stated is an average of, respectively, the 1st and 4th quartile group - and not the result of the farm, which is situated on the quartile limit.

### 3.6 Adjustment

None.

## **4 Relevance**

This statistic is relevant to Ministries, researchers and agricultural organizations to measure the income of agricultural holdings. The collections of data also meets the Danish obligations towards the European Unions Farm accountancy Data Network, FADN.

### **4.1 User Needs**

The Danish authorities, including particularly the Ministry of Food, Agriculture and Fisheries, researchers and national and international students, organizations in agriculture and horticulture and enterprises broadly related to the agricultural sector, e.g. credit grantors. The data collected for the statistics are used as basis for projections in the section concerning short-term statistics in the IFRO publication, Economics in Agriculture. Data are submitted to EU's information network for Agricultural Book-Keeping, INLB (French RICA, English FADN). The data form the basis for decision-making in agriculture at national as well as at EU level.

### **4.2 User Satisfaction**

This statistics is prepared as part of an agreement between the Ministry of Food, Agriculture and Fisheries of Denmark. As part of the agreement there are an annual meeting evaluating the statistics and a working group that follows the statistics with representatives from the Ministry and researchers.

### **4.3 Data completeness rate**

The Agricultural Account Statistics do not provide data to Eurostat, but to FADN. Data delivered to FADN are in accordance with COM 1291-2009.

## **5 Accuracy and reliability**

The statistics are compiled on the basis of a sample population and consequently, the results are subject to some degree of statistical uncertainty, although the data extract is representative with a stratification taking into account that all farms are represented. The statistical uncertainty differs for each individual item, and the largest degree of uncertainty is seen for the item investments, which may vary considerably among the farms or over time.

The overall accuracy is considered high. From the population of small farms, where the variation is small, a relatively small sample (1 to 2 pct.) is selected, while from the population of large farms a sample of up to 20 pct. is used. In the case of special types of farming, e.g. poultry additional agricultural holdings are selected in order to be able to show reliable results.

### **5.1 Overall accuracy**

The statistics are compiled on the basis of a sample population and consequently, the results are subject to some degree of statistical uncertainty, although the data extract is representative with a stratification taking into account that all farms are represented. The statistical uncertainty differs for each individual item, and the largest degree of uncertainty is seen for the item investments, which may vary considerably among the farms over time.

The overall accuracy is considered high. From the population of small farms, where the variation is small, a relatively small sample is selected, while from the population of large farms, where the variation is greater, a larger sample is selected.

### **5.2 Sampling error**

Overall accuracy: The statistics are compiled on the basis of a sample population and consequently, the results are subject to some degree of statistical uncertainty, although the data extract is representative with a stratification taking into account that all farms are represented. The statistical uncertainty differs for each individual item, and the largest degree of uncertainty is seen for the item investments, which may vary considerably among the farms or over time.

The overall accuracy is considered high. From the population of small farms, where the variation is small, a relatively small sample (1 to 2 pct.) is selected, while from the population of large farms, where the variation is greater, a sample of up to 20 pct. is used. In the case of special types of farming, e.g. poultry additional agricultural holdings are selected in order to be able to show reliable results.

### **5.3 Non-sampling error**

#### **Non-response**

Representative substitutes are selected for farms that are deregistered, e.g. if the farm is sold or leased out.

### **5.4 Quality management**

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.

### **5.5 Quality assurance**

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

## **5.6 Quality assessment**

### **Coverage and sample survey**

The sample survey covers about 5 pct. of the entire population within agriculture as a whole. If the sub-populations are considered, the selection ratio, however, varies considerably, partly to take account of the greater spread of results among the large farms, partly to achieve a sufficiently large number of farms in order to be able to represent the small sub-populations. In connection with the selection procedure, we have aimed at including the greatest possible number of farms in the statistics over several years in succession.

### **5.7 Data revision - policy**

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

### **5.8 Data revision practice**

Only final figures are estimated.

## **6 Timeliness and punctuality**

The statistics are published before 1st of October in the year after the accounting year.

### **6.1 Timeliness and time lag - final results**

The accounts statistics are normally published not later than 9 months after the end of the year, cf. agreement between Statistics Denmark and the Ministry of Food, Agriculture and Fisheries.

### **6.2 Punctuality**

The statistics are usually published without any delays.

## **7 Comparability**

The statistic is comparable back to 2008, where data have been calculated on basis of Standard Output.

The statistic is partly comparable with data from Danish Agricultural Advisory Service, who compiles economic key figures for different types of farming. A coordination of the concepts is conducted.

### **7.1 Comparability - geographical**

The data collected are submitted to EU's Directorate General for agriculture (DG Agri) and are used in EU's information network for Agricultural Book-Keeping, The data of each country are compiled by DG Agri, thereby producing an overall statistic covering the EU as a whole and statistics for each individual country on the basis of common concepts, definitions and homogeneous rules for selection and weighting. The statistics are available at: [FADN public database](#). Description of definitions and variables at: [European commission](#).

### **7.2 Comparability over time**

A comparable time series, going back to 2008 based on *standard output*, SO. Time series for agriculture, horticulture and organic farming going back to 1990, 1995 and 1996 respectively, but finishing by 2009, with typology based on *standard gross margin*, SGM.

### **7.3 Coherence - cross domain**

The Danish Agricultural Advisory Service (DAAS) collects accounts data for the purpose of providing advice to farmers. The accounts statistics calculated by Statistics Denmark and DAAS are weighted in accordance with operation results, there will, however be differences in the statistics. DAAS does not publish any direct representative statistics on Danish agriculture, but publishes statistical tables on typical farms.

The data collected are submitted to EU's Directorate General for agriculture (DG Agri) and are used in EU's information network for Agricultural Book-Keeping, The data of each country are compiled by DG Agri, thereby producing an overall statistic covering the EU as a whole and statistics for each individual country on the basis of common concepts, definitions and homogeneous rules for selection and weighting. The statistics are available at: [FADN public database](#). Description of definitions and variables at: [European commission](#).

### **7.4 Coherence - internal**

Only final figures are estimated.

## **8 Accessibility and clarity**

The figures are published in NYT from Statistics Denmark as well as in an annual publication - Regnskabsstatistik for jordbrug. The figures are available from Statistics Denmark's database: [Statbank](#).

There is the option to purchase more detailed data, and it is possible to gain access to micro data through Statistics Denmark's researcher location system.

The individual variables are documented in TIMES.

### **8.1 Release calendar**

The publication date appears in the release calendar. The date is confirmed in the weeks before.

## **8.2 Release calendar access**

The Release Calendar can be accessed on our English website: [Release Calendar](#).

## **8.3 User access**

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

## **8.4 News release**

The final figures will be published in the NYT from Statistics Denmark [NYT/Press Release](#).

## **8.5 Publications**

Statistics Denmark publishes an annual publication "Regnskabsstatistik for jordbrug" [Subject page for Agricultural Accounts Statistics](#).

## **8.6 On-line database**

Tables of Agricultural Account Statistics can be found here: [Statbank](#) - under Business sectors - Agriculture, horticulture and forestry.

## **8.7 Micro-data access**

Researchers and students may, on request, gain access to data that are made anonymous at individual level, provided that a declaration of secrecy is signed.

The basic material is available from accounts databases. On the basis of data extracted from the databases, statistical files at individual level are created. Tables for publications are constructed on the basis of the statistical files.

## **8.8 Other**

Not relevant for these statistics.

## **8.9 Confidentiality - policy**

The accounts statistics follows: [Data Confidentiality Policy at Statistics Denmark](#).

## **8.10 Confidentiality - data treatment**

Discretion is carried out, for the published material, when it is necessary. The publication is published so that it is not possible to identify individuals.

### **8.11 Documentation on methodology**

A brief description of methods is given in the annual publication (in Danish).

### **8.12 Quality documentation**

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## **9 Contact**

The administrative placement of this statistic is in the division of Food Industries. The person responsible is Henrik Bolding Pedersen, tel. +45 3917 3315, e-mail: hpe@dst.dk

### **9.1 Contact organisation**

Statistics Denmark

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