Documentation of statistics for
Accounts Statistics for Agriculture 2020

1 Introduction

The purpose of the accounts statistics is to analyse 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, horticulture and organic farming have been calculated, respectively since 1916, 1980 and 1996. The present form of the statistics has been calculated since 2008.

2 Statistical presentation

The statistics analyze the profit and loss accounts, 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 analyzed, as information on income outside of agriculture, paid taxes and private consumption are available for some farms. The farms are broken down by full-time and part-time farms as well as types of farming.

2.1 Data description

The statistics analyse the profit and loss accounts, 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.

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 statistics are divided by conventional farming, organic farming or gardening. It is also divided by region or provinces or type of farm. The type of farms are furthermore divided by FTEs and number of animals.

2.3 Sector coverage

The statistics cover all agricultural and horticultural holdings in Denmark.

2.4 Statistical concepts and definitions

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 renumeration 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 renumeration, DKK 1,000: Net profit (0720) minus family renumeration (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 renumeration (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: (operating profit (0655) + General subsidies (0705) - family

remuneration (3505)/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: (Operating profit (0655) + general subsidies (0705) - family remuneration (3505))/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: (Operating profit (0655) + general subsidies (0705) - family remuneration (3505) - tenancy - other financial costs)/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 (Net capital, end of year)/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 (Net capital+ deferred Taxation, end of year)/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: (debt- tenancy)/assets - tenancy)*100

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

2.5 Statistical unit

The overall statistical unit is per holding as defined in the Farm Structure Survey Farm Structure Survey. 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 25.000 Euros. The treshold has been changed from accounting year 2020 from 15.000 Euros earlier on.

2.7 Reference area

Denmark.

2.8 Time coverage

The accounts statistics for agriculture and horticulture are calculated from 2008 and forwards. Statistics from former years are also available but are calculated with another division of the farms.

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

The accounts variables are measured in 1.000 DKK,, Other accounts variables such as operating margin and degree of profitability in per cent. Labor input is measured in hours. Livestock is measured in number and land use in hectares or square meters. Harvest yields are measured in hkg per hectares. Milk is measured in standard milk yield, kg per cow. the energy consumption is measured in gigajoule.

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 yearly. For agriculture preliminary data are published in the beginning of July while final statistics are published approximately 1th of October.

2.13 Legal acts and other agreements

EU1217/2009 is the main regulation about Denmarks responsibility towards EU's Farm Accountancy Data Network, FADN, supplemented by EU1198/2014. The collection of data from the accountants are based on acceptance from the farmer. A register of farms from which there are acceptance are kept by Statistics Denmark.

Another important regulation is EU2015/220 with later amendments. This delegated regulation defines sample and regions, economic thresholds, typologi and farm return tables. EU1915/83 defines dates and payment for data.

The regulations can be found ind EU's database: 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

Other information is available on the statistics subject page or by contacting Statistics Denmark

3 Statistical processing

The data material is gathered from accounting offices organized in the Danish Agriculture and Food Council and private auditors by using electronic data collection and questionnaires. The data is classified by 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. Data is checked and validated and afterwards the sample are weighted to the population.

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 Farm Structure Survey maintained by Statistics Denmark. The register forms the basis for determining the population. Information on furred animal farms is collected from Kopenhagen Fur. Finally, register-based data on paid-out subsidies from the Danish Agrifish 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 ½, ¼ and ¼. 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.

The Danish sample to FADN is in regulated to 1.850 farms.

3.2 Frequency of data collection

Data are collected yearly.

3.3 Data collection

Accounts offices, which are organized within SEGES, 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 is collected as system-to-system reports. Finally, register based information is collected from the Register of Business Statistics by Statistics Denmark, Kopenhagen Fur and subsidies from the Danish Agrifish 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.

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 contain 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. As a main rule a type of holding is determined when 50 pct. of the total SO is from one specific activity.

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 analysing 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 statistics are 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 Union's Farm Accountancy Data Network, FADN.

4.1 User Needs

The Danish authorities, including particularly the Ministry of Environment and Food of Denmark, 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 are prepared as part of an agreement between the Ministry of Environment and Food of Denmark. As part of the agreement there are an annual meeting evaluating the statistics and a working group following 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 220/2015.

5 Accuracy and reliability

The statistics are compiled on a sample population and consequently, the results are subject to some degree of uncertainty. The sample is stratified with the aim of being representative for all farms. From the population of small farms, where the variation is small, a relatively small sample is selected, while from the population of large farms a larger sample is used. Loss of sample farms are countered by higher selection rates in strata where losses do occur (based on experience).

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. Participation in these statistics are voluntary for the farmer which adds to the uncertainty.

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 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

In relation to the target population, which is Danish agriculture, more than 99 per cent of the Standard Output is covered. Selection in each strata is increased to facilitate loss of responses. In 2019 loss of responses was 7-8 per cent. Some of the loss is due to that the population is not known at the time of selection. Farm can fx be sold or being bankrupt in the time from selection to the actual accounting year.

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 7 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

Preliminary data for agriculture are published in the beginning of July when 50-60 per cent of the data has been a thorough examination.

6 Timeliness and punctuality

The final statistics are published before 1st of October in the year after the accounting year while preliminary data for agriculture are published in the beginning of July.

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. For the statistics for 2015 and onwards preliminary data for agriculture are published in the beginning of July.

6.2 Punctuality

The statistics are usually published without any delays.

7 Comparability

The statistics are comparable back to 2008, where data have been calculated on the basis of Standard Output.

The statistics are partly comparable with data from SEGES (Danish agricultural advisory service), which 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 commision.

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

SEGES collects accounts data for the purpose of providing advice to farmers. The accounts statistics calculated by Statistics Denmark and SEGES are weighted in accordance to achieve the same main results. However there will be differences in the statistics. SEGES 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

Preliminary and final figures are estimated.

8 Accessibility and clarity

The figures are published in [Nyt from Danmarks Statistik](#). The statistics is published in StatBank Denmark under [Agricultural accounts statistics](#). Furthermore the numbers are published in an annual publication[publication](#) on agricultural accounts statistics. More information is available on the statistics [subject page](#).

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

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 figures are published in [Nyt from Danmarks Statistik](#)

8.5 Publications

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

8.6 On-line database

The statistics are published in the StatBank under the subject [Agricultural accounts statistics](#) in the following tables:

- [JORD1](#): Financial results for all farms (average) by quartile group, type of farm, region, standard, items and time
- [JORD2](#): Financial results for full-time farms (average) by quartile group, type of farm, full years work, items and time
- [JORD3](#): Financial results for part-time farms (average) by quartile group, type of farm, items and time
- [JORD4](#): Family income for full-time farms (average) by quartile group, type of farm, items and time
- [JORD5](#): Family income for part-time farms (average) by quartile group, type of farm, items and time
- [JORD6](#): Key indicators for all farms (average) by quartile group, type of farm, region, standard, items and time
- [JORD7](#): Key indicators for all full time farms (average) by quartile group, type of farm, full years work, items and time
- [JORD8](#): Key indicators for part time farms (average) by quartile group, type of farm, items and time
- [JORD9](#): Energy consumption (average) by quartile group, type of farm, items and time
- [JORD100](#): Accounts statistics in 100 years by type of farm, unit, items and time

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

More information is available in the statistics [subject page](#) where more detailed data is avaible in Excel files.

8.9 Confidentiality - policy

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

8.10 Confidentiality - data treatment

Data are subjected to Statistics Denmark´s non-disclosure practice, when it is considered necessary. The data are published in a way which ensures that individual units cannot be identified.

8.11 Documentation on methodology

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

On the statistics subject page are a brief description of methods is given in different publications(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 these statistics is in the division of Food Industries. The person responsible is Henrik Bolding Pedersen, tel. +45 39 17 33 15, e-mail: hpe@dst.dk

9.1 Contact organisation

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