STATISTICS DENMARK

# Documentation of statistics for Economic Accounts for Agriculture 2023

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## 1 Introduction

The Economic Accounts for Agriculture (EAA) illustrates the development in the economy in the agricultural sector and serves as input to the National Accounts. Economic Accounts for Agriculture exist back to 1935, but the statistics are in their present form comparable from 1990 onwards.

## 2 Statistical presentation

The Economic Accounts for Agriculture (EAA) are an annual statement of the agricultural business results, including crop and animal sales products, intermediate consumption, grants and taxes. The Economic Accounts for Agriculture show the results before depreciation, interest and remuneration of labor. The statistics are calculated in million Danish kroner and as price and volume indices. It is broken down by type and geographical by region.

### 2.1 Data description

The Economic Accounts for Agriculture (EAA) form the basis of the agricultural part of the National Accounts. The bottom line of the statistics is the gross value added at factor prices, which measures the income available for the input of labour and capital, including depreciation, return to internal and debt capital, compensation of employees and return to the farmer.

The EAA can be split up into the following headings:

- Value of agricultural sales products
  - Crops
  - Animals
- Income from agricultural services
  - Agricultural contract work
  - Milk quotas for hire
- Income from inseparable non-agricultural secondary activities
- Value of changes in stocks
  - Changes in stocks at farms
  - Changes in livestock
- Output of agricultural industry (The sum of the four above mentioned items)
- Intermediate consumption
  - Seeds
  - Energy
  - Fertilizers
  - Pesticides
  - Veterinary expenses
  - Feeding Stuffs
  - Repairs and maintenance
  - Agricultural services
  - Bank services, indirectly and directly measured
  - Services from other industries
- Gross value added at producer prices
- Subsidies and taxes on products
- Gross value added at basic prices
- General subsidies and taxes
- Gross value added at factor prices

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## 2.2 Classification system

The statistics are broken down by type and geographical by region.

## 2.3 Sector coverage

Agriculture and horticulture.

## 2.4 Statistical concepts and definitions

Output: Output is the sum of crops and animal products, agricultural services and secondary activitites

Agricultural goods sold: The value of crops and animal products

Crop products: The value of all crop products including cereal, forage crops and fruit and vegetables

Animal output: The value of animal products including meat, live animals and products from animals such as milk and eggs

Agricultural services: The value of agricultural contract work and renting of milk quotas

Secondary activities: Secondary activities covers miscellaneous revenue

Changes in stock and livestock: Changes in stock and livestock

Intermediate consumption: Costs associated with the production e.g. seeds, energy and feeding stuffs

Gross value added at producer prices: Output minus intermediate consumption

Gross value added at basic prices: Gross value added at producer prices plus subsidies on products minus subsidies and taxes on products

Gross domestic product at factor cost: Gross value added at basic prices plus general subsidies minus taxes on production

## 2.5 Statistical unit

Agricultural holdings

## 2.6 Statistical population

The population covers the economic activity in the agricultural sector.

## 2.7 Reference area

Denmark.

## 2.8 Time coverage

The Economic Accounts for Agriculture have been published since 1990. The regional data has been available since 2011.

## 2.9 Base period

There are price and volume indices, which have base years 2005, 2010 and 2015 and 2020, which is first released in 2024. The base year 2015 ends with 2022 as the final year and is last updated in 2024.

See a more in-depth description of the development in the section on Internal consistency.

## 2.10 Unit of measure

The type of products are calculated in million DKK and there are price and quantity indices for the Economic Accounts for Agriculture.

## 2.11 Reference period

It is a yearly statistic following the calender.

## 2.12 Frequency of dissemination

Preliminary figures of the Economic Accounts for Agriculture are published in May. In November, the revised Economic Accounts for Agriculture together with the yearly regional data.

## 2.13 Legal acts and other agreements

Regulation (EC) No. 138/2004 of the European Parliament ad of the Council of 5 December 2003 on the Economic Accounts for Agriculture in the Community.

## 2.14 Cost and burden

The statistics are based mainly on data from other statistics. Therefore, there is no direct reporting burden in the compilation of these statistics.

## 2.15 Comment

Further information can be found on the subject Agricultural Economics or by contacting Statistics Denmark .

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## 3 Statistical processing

The Economic Accounts for Agriculture are calculated annually based on data from many different statistics, mainly from the agricultural statistics. The values of the different products are calculated using prices and quantities. Data is validated when the primary statistics are calculated but it is also validated when used in the calculation of the Economic Accounts for Agriculture.

### 3.1 Source data

The Economic Accounts for Agriculture consist of data on values of the agricultural production and intermediate consumption from many different statistics produced in Statistics Denmark. It is mainly statistics related to agriculture and the agricultural sector e.g.

Farm structure survey ( number of holdings and areas), Vegetable statistics (harvest results and stocks of crops), Animal statistics (livestock and livestock products), Intermediate Goods (feeding stuffs, fertilizers and pesticides), Accounts Statistics for Agriculture, Prices and price indices for Agriculture.

Data regarding the finance Act are used to the calculation of bank services and taxes. Other than that data from International trade is also used. Finally data from the Danish Agricultural Agency is used to the calculations on subsidies.

### 3.2 Frequency of data collection

Yearly.

### 3.3 Data collection

Data are not gathered directly to the Economic Accounts for Agriculture but come from other existing statistics. A lot of the data is available in Statbank Denmark, whereas other materials are gathered in other agricultural statistics and the data is available here. Data on subsidies are delivered by the Danish Agricultural Agency.

### 3.4 Data validation

The data validation is made in different steps.

Data is validated in the primary statistics. When data is delivered to the Economic Accounts for Agriculture, data is checked again both in relation to the results former years and to the overall development. It is possible to check the primary data again if it is necessary. At the end the data is compared to each other and corrections can be made.

### 3.5 Data compilation

The data compilation is closely connected with the data validation. Overall are prices and quantities collected and the values of each product are calculated. At the same time it is taken into account that there are different boundaries for the different statistics where imputation can be used. **Vegetable and Animal Sales Products**: These prices and quantities are collected monthly, quarterly, or semi-annually and in various quantities. Additionally, data is often collected at a more detailed level than the calculation of EAA. Therefore, data must be processed to ensure that values and quantities represent the total annual value and production as calculated in the EAA.

**Agricultural Services and Expenditures in Production Consumption, including Expenses for Energy, Pesticides, Seeds, Veterinary and Medical Costs, Repairs**:

Here, the Agricultural Accounting Statistics are used, read about the statistics Regnskabsstatistik for jordbrug At the release of EAA in May, data from the Agricultural Accounting Statistics for the same year is not yet available. Therefore, it is necessary to rely on data from previous years and make imputations for items where there has been a significant development since the previous year. To make imputations, the price development is considered, and any estimates are obtained from, for example, feed companies or SEGES to assess the development within the individual items.

**Supplement for small agricultural holdings**: The sample coverage of the population of farms and horticultural businesses for Agricultural Accounting Statistics is smaller than the population for EAA, which covers all farms. Therefore, an adjustment is necessary to include small farms for items that use the Agricultural Accounting Statistics as a source. This applies to several cost items. The supplement is calculated based on the Standard Output (SO) of the Agricultural Accounting Statistics.

**Culling of Mink in 2020**:

In November 2020, the government decided that all mink should be culled as a result of the COVID-19 pandemic. 15.7 million mink were culled, of which 7.4 million were pelts (equivalent to 47 percent), and 8.3 million were destroyed. The value of the pelts is included in the EAA for 2020, not the destroyed mink. The culling of mink has had an impact on EAA and has resulted in a decrease in animal sales products, especially the fur animals post, which has almost disappeared from 2021. The culling of mink is also reflected in a significant decrease in the consumption of fishmeal and fish waste as feed. Since January 2021, individual mink businesses have received compensation for, among other things, lost earnings as a result of the mink cullings. These payments are not included in EAA. The culling of mink means that fur skins have been discontinued from 2021 in the price and quantity index in the base year 2015=100 and from 2020 in the new base year 2020=100.

### 3.6 Adjustment

Corrections are not made on data other than what has already been described in data validation and data processing.

## 4 Relevance

The Economic Accounts for Agriculture is relevant for the Danish authorities especially the Ministry of Environment and Food of Denmark, EU and the agricultural organizations, so they can follow the development in the economic activities in the agricultural sector. It is also an input to the National Accounts.

### 4.1 User Needs

The Economic Accounts for Agriculture is relevant for the Danish authorities especially the Ministry of Environment and Food of Denmark, EU and the agricultural organizations, so they can follow the development in the economic activities in the agricultural sector. It is also an input to the National Accounts.

### 4.2 User Satisfaction

There is a user committee for agricultural statistics and a working group for account statistics for agriculture, where the users have the possibility to comment on the Economic Accounts for Agriculture. There is also a user comittee for economic statistics, where the National Accounts are discussed. The users are satisfied with the statistics.

### 4.3 Data completeness rate

The Economic Accounts of Agriculture are in full compliance with all regulations and EU data deliveries.

## 5 Accuracy and reliability

As the statistics are compiled on the basis of a wide range of agricultural statistics, a significant number of sources of statistical errors are present. Problems with providing fully representative reference periods can give uncertainty whereas information from dairies and slaughterhouses is exact. For the preliminary results some estimates and assumptions are used until the primary data are finalized which is the reason why the Economic Accounts for Agriculture are finalized two years after the first time published. The reliability f the statistics is good. The margins of statistical error are not calculated.

### 5.1 Overall accuracy

The Economic Accounts for Agriculture is based on a lot of different sources, where the uncertainty is different. Problems with providing fully representative reference periods can give uncertainty whereas information from dairies and slaughterhouses is exact. For the preliminary results some estimates and assumptions are used until the primary data are finalized which is the reason why the Economic Accounts for Agriculture are finalized two years after the first time published. Not all data sources have the same boundary, therefore calculation factors is used. The inaccuracies are larger on regional level.

### 5.2 Sampling error

Not relevant for this statistic.

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### 5.3 Non-sampling error

The Economic Accounts for Agriculture are based on a lot of different sources, where the uncertainty is different. Problems with providing fully representative reference periods can give uncertainty whereas information from dairies and slaughterhouses is exact. For the preliminary results some estimates and assumptions are used until the primary data are finalized which is the reason why the Economic Accounts for Agriculture are finalized two years after the first time published. Not all data sources have the same boundary calculation factors is used. The inaccuracies are larger on regional level.

### 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

The statistics are compiled on the basis of several different sources, each contributing with statistical inaccuracies. The accuracy is evaluated to be highest on the areas which has the smallest influence on the results. The difference between the preliminary results and the final figures are around 3 per cent. The accuracy is larger on the regional level.

### 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

The Economic Accounts for Agriculture is published twice a year and are preliminary for the first two years they are published and are considered final after three years. Between the preliminary and final figures the results may vary up to plus/minus 3 percent. The Economic Accounts for Agriculture on regional level are also published once a year with the same distribution of preliminary and final figures.

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## 6 Timeliness and punctuality

The preliminary statistics are published at the latest 6 months after the end of the reference period. Revised figures, but still preliminary, are published 10 months after the reference period. The final figures are published 2 years and 6 month after the reference period.

### 6.1 Timeliness and time lag - final results

The preliminary statistics are published at the latest 6 months after the end of the reference period. Revised figures, but still preliminary, are published 10 months after the reference period. The final figures are published 2 years and 6 month after the reference period. The regional Economic Accounts for Agriculture is published in November.

### 6.2 Punctuality

Due to the dependence of many difference data sources, the date of publication may vary up to a month.

## 7 Comparability

The Economic Accounts for Agriculture is comparable in its current form back to 1990. It can be compared to the Economic Accounts for Agriculture produced by Eurostat. There are some few differences between the Danish and European version. It is also in some way comparable to the economic accounts for agriculture which is calculated on farm level.

### 7.1 Comparability - geographical

The Danish Economic Accounts for Agriculture can be compared with the European Economic Account for Agriculture (EAA), where the internationally agreed methodology for the EAA is described in the Eurostat publication: Manual on the Economic Accounts for Agriculture and forestry EAA/EAF 07 (Rev. 2). There are some differences in how the Danish and the European Economic Accounts for Agriculture is calculated. The data sources are the same however the Danish Economic Accounts for Agriculture does not include contract work done by others outside the sector.

### 7.2 Comparability over time

Comparable statistics on Economic Accounts for Agriculture at annual level are available back to 1990. As a consequence of the implementation of the methodology in the National Accounts, ENS 1995, a compilation method for gross domestic product at factor cost in agriculture was implemented in 2000 in accordance with internationally agreed guidelines. In February 2019 it was decided that the Economic Accounts for Agriculture will follow the new European guidelines for the National Accounts (ESA2010). There will be no significant changes in the Economic Accounts for Agriculture when changing to ESA2010. In 2005, it was decided to include indirect bank charges as intermediate consumption. The statistics back to 1990 have been revised in accordance with the methodology, and are available from Eurostat StatBank place country-region Denmark. Christmas trees are only accounted for from 1995 and onwards. Except for indirect bank charges and secondary receipts, gross domestic product at factor cost has also been calculated the basis of this methodology for the calendar years 1973-89. However, the new calculations are subject to some statistical uncertainty. Comparable statistics compiled in line with the previously applied methodology (before the revision in 2000) are available for the period 1975-98 for calendar years and for the period 1975/76-1998/99, covering operation years.

### 7.3 Coherence - cross domain

Examples of other statistic in the area are the annual publications Agricultural Account Statistics, which are dealing with the economic results in agriculture at farm level. The Agricultural Account Statistics is as such forms the agricultural component of the national accounts, but is further specified.

### 7.4 Coherence - internal

Internal consistency in the Economic Accounts for Agriculture is secured by using the same input to the calculations of the statistics. If there are differences in the primary data sources, it is investigated if it has an influence on the Economic Accounts for Agriculture. It is sought that there are no changes in calculation methods for the Economic Accounts for Agriculture, so the internal consistency remains. If changes are made, they and the consequences will be described.

When there is a change in base year, there will also be a change in the composition of products in the aggregated groups e.g. pesticides and fertilizers. This is a natural consequence of the development in the real world and the price indices in the different base years will therefore never be exactly the same. When there are differences in the price indices in the different base years, it is our recommendation that the newest indices have the highest value. In 2024, the new base year 2020=100 is introduced, and simultaneously, the base year 2015=100 is discontinued.

## 8 Accessibility and clarity

The statistics are published in News from Statistics Denmark. The StatBank Denmark publishes the gross factor income of agriculture under the subject Agricultural Economics. In addition, the figures are included in Statistical Yearbook and Statistical Ten Years Summary. See more on the subject Agricultural Economics.

### 8.1 Release calendar

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

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### 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.

### 8.2 Release calendar access

The Release Calender can be accessed on our English website: Release Calender.

### 8.4 News release

It is published in News from Statistics Denmark *Landbrugets bruttofaktorindkomst*.

### 8.5 Publications

The Economic Accounts for Agriculture are not published in publications

### 8.6 On-line database

The statistics are published in the StatBank under the subjects in the following tables:

- KVAEL2: Total supply of mineral fertilizers/content of pure nutrients by type of substance, unit of measurement and time
- LBF3: Direct taxes and duties in farming by type and time
- LBFI1: Gross domestic product at factor cost for agriculture by type and time
- TILSKUD2: Directly subsidies in agriculture by type and time
- LBFPRI1S: Price- and quantity indices for agricultural sales and intermediate consumption by type, index type and time
- LBFI2: Gross domestic product at factor cost for agriculture by region, type and time
- LBFPRIS1: Price- and quantity indices for agricultural sales and intermediate consumption by product, index type and time

### 8.7 Micro-data access

Not relevant for this statistics.

### 8.8 Other

Not relevant for this statistics.

### 8.9 Confidentiality - policy

Statistics Denmark on Code of Statistics.

### 8.10 Confidentiality - data treatment

Individual products are discretioniced and left out of the publication.

### 8.11 Documentation on methodology

The internationally agreed methodology for the EAA is described in the Eurostat publication: *Manual on the Economic Accounts for Agriculture and forestry EAA/EAF 97 (Rev. 1.1), Luxembourg 2000.*

### 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 are in the division of Food Industries. The person responsible is Simone Thun, tel. +45 51 36 92 51, e-mail: sit@dst.dk

### 9.1 Contact organisation

Statistics Denmark

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Food Industries, Business Statistics

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