

**Documentation of statistics for
The Supply and Use of Cereals and Feed 2022**

1 Introduction

The purpose with the statistics on supply and use of cereals and feed is to show the annual use of feed for animals and the use cereals, which is a part of the calculations of the feed consumption. The feed consumption is also calculated after the origin of the feed, if it is produced in Denmark or abroad. The statistics is also use for the calculations of the Economic Accounts for Agriculture. The supply and use of cereals and feed have been compiled since 1900, but data in its present form are comparable from 1990 and onwards.

2 Statistical presentation

The statistics are an annual calculation of agriculture's feed supply and feed consumption calculated in millions, kg and million DKK. Feed supply and feed consumption are calculated for a large number of feed materials by drawing up balance sheets. It is calculated for both calendar year and operating year and by origin.

2.1 Data description

The statistics are annual calculations of the agricultural feed supply and feed consumption calculated in million kilo and million DKK. The value calculation of feed materials can be found in the statbank table FODER6, while FODER1 and FODER5 are calculated in million kilo. The feed consumption is calculated for a large number of feed materials, for example wheat bran or oil cakes, by setting up balance sheets that calculate how large amounts are used for feed. The utilization of cereals is included as an extended calculation in this context. The statistics are calculated both for calendar year and operating year, and by origin. The statistics on the supply and consumption of cereals and fodder use are related to the statistics on the distribution of fodder according to use in feed mixtures or as single fodder (statbank table FODER2), as both statistics contain the same feedstuff. From 2022, the statistical table FODER5 will be discontinued. This is because information about oilseeds can be found in FODER1, FODER2, and FODER6.

2.2 Classification system

A, 01.00.0, Agriculture and Horticulture. Classifications: Feed stuff, production of compound feed and use of fodder

2.3 Sector coverage

Agriculture

2.4 Statistical concepts and definitions

Straight feeding stuff: Straight feeding stuff is a single feeding stuff e.g. wheat, which together with other feeding products become compound feeding stuff.

Ensiling: Method for preserving fodder from whole grains, grass or other green fodder.

Compound feeding stuff: A feed mixture consists of two or more ingredients and is pre-mixed from the factory, ready for the livestock to eat. Typically, it contains one or more crops, eg wheat, and in addition other feed materials. It can be anything from fishmeal, milk powder, oilseeds and vitamins and minerals

Fodder unit : Measure of energy content in crops that can be used for fodder.

Feed value: Feed value is calculated in feed units, which is a calculation unit. A feed unit is calculated differently from different feeding products. It depends on which product is used. E.g. there must be a larger amount of straw to a feed unit than wheat.

Supply balance: A compilation of the national accounts which shows both the supply of goods and services in a country over a period of time as well as the use of these goods. By definition, supply and use are always the same. The components of the supply balance are GDP and imports of goods and services on the supply side and consumption, gross investments and exports of goods and services on the usage side.

Grass in rotation: Area planned to be cultivated with grass for a maximum of five seasons.

Coarse fodder: Fodder crops used more or less unprocessed for fibrous fodder. Includes Whole crop, maize for green fodder, grass, fodder turnips etc.

Cereal trading companies: Companies, who buys and sells cereals and feed products.

Maize for green fodder: Maize that is harvested as a whole crop before ripening and usually ensiled for fodder.

Grain maize: Maize grown for ripening of cobs and kernels in September-October. Used for fodder.

Crude protein: The quantity of a feed product, which is protein. The content of protein differs in the different feeding products.

Feedstuff: A feedstuff is any crop or product that is used as feed for livestock. In addition to grain, it can be oilseeds, products from sugar production, e.g. beet pulp or molasses, grass, dairy products for feed or fishmeal.

Mixed crops: Mixture of crops sown in the same field, eg. of cereals and/or legumes.

2.5 Statistical unit

Data is collected from companies including farms.

2.6 Statistical population

The population covers agriculture in Denmark.

2.7 Reference area

Denmark.

2.8 Time coverage

The statistics Feed Stuffs in Agriculture (FODER₁) cover the period from 1990 and beyond.

The statistics Value of feeding stuffs (FODER 6) cover the period from 2000 and beyond.

2.9 Base period

Not relevant for this statistic.

2.10 Unit of measure

- Weight (million kg)
- Crude protein (million kg)
- Price per 100 kg
- Million DKK

2.11 Reference period

The statistics have to reference periods. Calendar year and crop year, which is from d. July 1st to June 30th.

2.12 Frequency of dissemination

The statistics are published once a year.

2.13 Legal acts and other agreements

The [Act on Statistics Denmark](#) and the supply and use of cereals and feed is a contribution to meet the [Regulation no. 138/2004](#) of the European Parliament and of the Council on the Economic Accounts for Agriculture in the Community.

2.14 Cost and burden

- The burden for delivering data to Stock of cereals at the farmers is last calculated to 4,000 DKK
- The burden for delivering data to Stock of cereals at wholesalers is last calculated to 26,000 DKK

2.15 Comment

Further information can be obtained from Statistics Denmark or on the subject page [Foder, gødning og pesticider](#)

3 Statistical processing

The data is collected in biannual and annual questionnaires where the incoming data is checked. Data is from different sources where some are sample surveys and others are censuses why there can be differences in how the further data is calculated. The statistics is produced by setting up balance sheets for each feeding product so the supply equals the demand for each product. The calculations are made on crop years, because the calculations are most accurate but calculations on calendar year is also made because of the calculations of the Economic Accounts for Agriculture.

3.1 Source data

Data input are collected from a wide range of sources. The main sources are:

Annual stock at cereal trading companies (census) Annual stock of cereals on farms (400 farmers in the sample and 1 per cent does not deliver data) Indirectly are data from other statistics from Statistics Denmark used: the annual harvest survey, manufacturers' sales of goods and international trade in goods Moreover some information is collected elsewhere, from businesses with industrial activities and industrial organizations.

3.2 Frequency of data collection

There are differences in the frequency of the collection of data to this statistics. The stock of cereals at farms and the harvest statistics are collected yearly whereas stock at cereal trading companies are collected biannual. International trade in goods and manufacturers' sales of goods are published monthly.

3.3 Data collection

The data collection is in a Web questionnaire.

3.4 Data validation

Different methods are used to check to incoming data.

The stock of cereals at farms are compared with information about their cultivated area with cereals. Other than that, the stock of cereals is compared to the number of pigs on the farm because pig farms most often have large amounts of cereals in stock. This information helps to prove small or large amounts of cereals in stock. Regarding stock of cereals at cereal trading companies, data is compared to data from the same period last year. Moreover the size of the harvest has a large influence on the amount of stocks of cereals. If data is missing or very different from previous years, we contact the reporting company to have the data validated.

The harvest of cereals etc. and international trade in goods are validated in other statistics so information can be found here: [Harvest of cereals etc](#) and [International trade in goods](#)

3.5 Data compilation

The use of feed is calculated using supply balance sheets for the single kinds of feed stuffs. On the one hand, the total supply is calculated containing domestic production, stocks at beginning of period and imports, and on the other hand uses are calculated containing exports, stocks at end of period and feeds used for animal production. The use of feed for animal production is calculated as a residual in the balance.

- Yield or production ÷ loss at producer
- import
- initial stock = Available total

$\div \text{seed} \div \text{export} \div \text{industrial use} \div \text{human consumption} \div \text{consumption for other purposes} \div \text{final stock}$
= use for feed

The results are calculated on crop years, because this supplies the most accurate results, but balance sheets are also compiled on calendar years as input for compiling Economic Accounts for Agriculture.

3.6 Adjustment

Corrections are made on an ongoing basis because of updates in the harvest data and international trade in goods. The statistics is preliminary until 2 years after it has been published for the first time.

4 Relevance

It is relevant for the agricultural organizations, ministries and agencies, who uses it to follow the development in the amounts and costs of cereals and feed. Moreover it is an input to the Economic Accounts for Agriculture e.g. to the valuation of feeding stuff. The users can comment on the statistics in the user committee for agricultural statistics and the users have expressed satisfaction with the statistics.

4.1 User Needs

It is of interest for the agricultural organizations, ministries and agencies. The needs are calculations of the supply and use of cereals and feed in Denmark, both in quantities and values. Moreover it is an input to the Economic Accounts for Agriculture which is delivered to the EU.

4.2 User Satisfaction

No user satisfaction survey has been made on this statistics, but the users we have talked to have expressed satisfaction with it.

4.3 Data completeness rate

The statistics is an input to the Economic Accounts for Agriculture and therefore meet the requirements, guidelines and regulations by the EU.

5 Accuracy and reliability

The supply and use of cereals and feed are among other things build on sample surveys for stock of cereals at farms, the harvest of cereals and international trade of goods and the results are therefore subject to some uncertainty. The data on the use of cereals for feeding are subject to some margin of errors, as the use for feeding is calculated as a residual in the balance sheets. Surveys on stock and turnovers at cereal trading companies are censuses and the results are quite accurate. Changes in stocks are also a possibility, which can cause uncertainty.

5.1 Overall accuracy

The supply and use of cereals and feed are based on a wide range of different data sources which includes both sample surveys and censuses. There are different uncertainties on the different sources. The stock of cereals at farms have some uncertainty because of a small sample. The uncertainty is smaller on the harvest of cereals, both because of a larger sample, a high response rate and it is the largest cereals calculated on area. The feed consumption is calculated as a residual, which is affected by the uncertainty in the other factors.

5.2 Sampling error

There are some uncertainty on the stocks of cereals at farms. The sample represent a relatively small share of the population, why it is very important for the uncertainty that the response rate is high. The response rate was 99 per cent. Regarding sample errors for the statistics on harvest of cereals and international trade of goods, see [Harvest of cereals etc](#), [International trade in goods](#) and [Manufacturers' Sales of Goods](#)

5.3 Non-sampling error

The Supply and Use of Cereals and Feed is based on differences sources, where the uncertainty is different. The loss in the sample is 1 per cent but the sample only represent a small part of the population. The data on the feed consumption are subject to some margin of errors, as the feed consumption is calculated as a residual in the balance sheets. There is always a risk for covering more than the population when using more than one source but is thought to be insignificant for the statistics.

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 different sources, each contributing with statistical inaccuracies. Especially the coverage of the stocks of cereals at trading companies is good whereas the uncertainty is larger for the data on stocks of cereals at farms because it is a relatively small sample survey. General the quality of the statistics is regarded to be very good.

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

There can be some deviations between preliminary and final statistics exist because of deviations between preliminary and final harvest statistics and between provisional and final trade statistics. The statistics is preliminary in 2,5 years after the end of the reference period.

6 Timeliness and punctuality

The statistics is published once a year in May together with the Economic Accounts for Agriculture, barely 6 months after the end of the reference period. Data is preliminary until 2,5 years after the end of the reference period. The statistics is punctual and is published without delay.

6.1 Timeliness and time lag - final results

The statistics is published together with the Economic Accounts for Agriculture about 6 months after the end of the reference period. Data is preliminary until 2½ years after the end of the reference period.

6.2 Punctuality

Value of feeding stuffs (FODER6) is published together with the Economic Accounts for Agriculture, which is dependent on many different primary statistics. Therefore, the release data may vary with up to a month. The statistics Feed stuffs in Agriculture (FODER1) is published in January.

7 Comparability

The statistics have been compiled since 1900 but are in their present form comparable from 1990 onwards. It is in compliance with the current EU legislation and it is an input to the Economic Accounts for Agriculture which is comparable to the Economic Accounts for Agriculture published by Eurostat.

7.1 Comparability - geographical

The statistics utilization of cereals follows the current EU legislation on Economic Accounts for Agriculture, as the statistics are input to. The Economic Accounts for Agriculture are comparable to the European version of the same statistics, which Denmark delivers data to. The Economic Accounts for Agriculture are an input to the National Accounts.

7.2 Comparability over time

The supply and use of cereals and feed are for most feeding stuffs comparable over time. More products for feed have been developed whereas some products are not used anymore and are therefore not included in the statistics. Data before 1990 is only available in printed agricultural statistics.

7.3 Coherence - cross domain

The statistics is an input to the Economic Accounts for Agriculture. Numbers for crop year correspond to the second half of one calendar year plus first half of the next calendar year.

7.4 Coherence - internal

Nothing to notice.

8 Accessibility and clarity

These statistics are published in the StatBank under the subject [Feed, fertiliser and pesticides](#).

8.1 Release calendar

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

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

8.4 News release

Not relevant for these statistics.

8.5 Publications

The statistics are not included in any publications.

8.6 On-line database

These statistics are published in the StatBank under the subjects [Agricultural economics](#) and [Intermediate Goods](#) in the following tables:

- [FODER1](#): Feed Stuffs in Agriculture by type of fodder, origin and unit
- [FODER6](#): Value of feeding stuffs by feed and unit

8.7 Micro-data access

Researchers and other analysts from authorized research institutions can access the Micro-data of the statistics through Statistics Denmark

8.8 Other

Not relevant for this statistic.

8.9 Confidentiality - policy

[Datafortrolighedspolitik](#) in Statistics Denmark.

8.10 Confidentiality - data treatment

The statistics are published at an aggregation level that does not require discretion.

8.11 Documentation on methodology

There are no separate method descriptions for this statistic.

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 contact person is Simone Thun, tel.: + 45 5136 9251, and e-mail: SIT@dst.dk.