

**Documentation of statistics for
The Use of Cereals 2023**

1 Introduction

The purpose of the statistics is to compile a grain balance, primarily with the aim of calculating the quantities of grain that go to feed consumption, both for each individual crop and for the total amount of grain. In the grain balance, the amount of grain from harvest and import is calculated, and it is distributed among different uses. The statistics are used to calculate the Economic Accounts for Agriculture. Supply balance sheets for cereals for the crop year have been compiled since 1900/01. Balance sheets for the calendar year have been compiled since 1961. Data in its present form is comparable from 1995 onwards.

2 Statistical presentation

The statistics is an annual calculation of the supply balance sheets for cereals in million kg. The utilization of cereals is calculated both for calendar year and crop years and is published for 6 different cereals and cereals in total. The supply balance sheets contain for each type of cereals statistics on cereals available: harvest, imports and initial stocks, as well as statistics on the use of cereals for different purposes: exports, final stocks, seeds, flour production and other manufacturing, feeding. Moreover, the supply balance sheets are produced based on the origin of the cereals, whether it is produced in Denmark or abroad.

2.1 Data description

The purpose is to compile annual supply balance sheets calculated for both calendar year and crop year. It is calculated for quantities harvested, imports and exports, cereals used for seeds, cereals used for flour production and other industrial purposes, initial and final stocks and cereals used for feeding. The supply balance sheets are calculated for six different cereals: wheat, rye, triticale, barley, oats and dredge corn and grain maize and cereals in total. Moreover the supply balance sheets are produced based on the origin of the cereals, whether the cereals is produced in Denmark or abroad.

2.2 Classification system

Data is divided by crop (wheat, rye, triticale, barley, oats and mixed seed, maize, etc.), origin (Danish, imported) and type (harvest, import, storage primo, seed, export, milling, industrial purpose, storage primo, feed consumption). The crop item Maize etc also contains small cereals such as buckwheat, millet or sorghum. These small cereals are largely not grown in Denmark, and therefore there is no Danish production or export, only imports.

2.3 Sector coverage

Agriculture.

2.4 Statistical concepts and definitions

Used for feeding: The amount of cereals used for feed

Grinding for flour, groats etc.: The amount of cereals used for grinding flour, groats, etc.

Production less waste: The harvested amount of cereals minus waste

For manufacturing: The amount of cereals used for manufacturing e.g. for input to beverages.

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

Stocks, primo: The stocks of cereals at the beginning of the year

Stocks, ultimo: Stocks of cereals at the end of the year

Seeds for sowing: The amount of cereals used for sowing

Hvede: Wheat consists of both spring and winter wheat

2.5 Statistical unit

Legal entities.

2.6 Statistical population

The population covers agriculture in Denmark.

2.7 Reference area

Denmark.

2.8 Time coverage

The statistics covers from 1995 and onwards.

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

Million kg.

2.11 Reference period

The statistics has to reference periods. End of crop year at June 30th, and end of calendar year December 31th.

2.12 Frequency of dissemination

The statistics is published to times a year.

2.13 Legal acts and other agreements

The Act on Statistics Denmark and the utilization of cereals 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.

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. Censuses are aggregated whereas sample surveys are listed according to known target variable.

3.1 Source data

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

Sample surveys: the annual harvest survey, [Harvest of Cereals etc.](#), the annual farm structural survey, [Agricultural and Horticultural Survey](#), the external trade, [International trade in Goods](#), the annual surveys of stocks on farms that is part of the table [KORN2](#): Stock and turnover of cereals

Census: the annual survey of flour producers that is included in The Utilization of cereals under the type Grinding for flour, groats etc. This survey is not published as an independent statistic, the annual stock at cereal trading companies that is part of the table [KORN2](#): Stock and turnover of cereals

3.2 Frequency of data collection

There are differences in the frequency of the collection of data to this statistics. The survey at flour producers, stocks at farms and cereal trading companies and the foreign trade are collected biannual whereas data on harvest is collected once a year.

3.3 Data collection

The data collection methods involved in The utilization of cereals are multiple. Most of the data collection is by means of web questionnaires or other digital upload solutions.

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. The production of flour is a census so 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

There are differences in how data are validated. Data on flour production and stocks of cereals at trading companies are censuses so when data is checked, it is aggregated. The harvest of cereals and amounts from the international trade of goods is validated in other statistics and information is used from there.

The stock of cereals at farms are raised to the total population by using the total cultivated area with cereals which is already known from the IACS. The loss is about 1 per cent.

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 use of cereals in Denmark. Moreover it is an input to the Economic Accounts for Agriculture. 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 supply balance sheets of how cereals in Denmark are used and how the development has been over time. 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 have 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 utilization of cereals are 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. 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.

5.1 Overall accuracy

The balance sheets 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.

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](#) and [International trade in goods](#)

5.3 Non-sampling error

The utilization of cereals 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 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. All primary statistics to the calculation of the Utilization of cereals has the same target population which indicates no coverage errors in the statistics. 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 external trade statistics. The statistics is preliminary in 2,5 years after the end of the reference period.

6 Timeliness and punctuality

It is published twice a year- The statistics concerning the crop year, end of period June 30th, is published in January/February together with the feed consumption, approximately 6 months after the end of the reference period. The statistics following the calendar year is published 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 twice a year. The Crop year statistics is published in January/February together with the statistics on feed consumption which is about 6 months after the end of the reference period. The Calendar year statistics is published in May 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

The statistics are published without delay in relation to the previously announced release date in the release calendar.

7 Comparability

The utilization of cereals is comparable back to the crop year 1960/61 and the calendar year 1960. Stocks were not a part of the statistics before 1960. 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

Supply balance sheets by crop year are comparable from 1960/61 and onwards. Supply balance sheets by calendar year are comparable from 1960 onwards. Data before 1960 does not include stocks but all the other types of utilization are comparable back to 1900/01. It must be expected that the stocks were of no significance before 1960. Data before 1995 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 [Crop production](#).

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

Not relevant for these statistics.

8.6 On-line database

These statistics are published in the StatBank under the subject [Crop production](#) in the following tables:

- [KORN](#): The utilization of cereals by crop, period, origin and type
- [KORN2](#): Stock and turnover of cereals by crop and agents

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 these statistics.

8.9 Confidentiality - policy

[Datafortrolighedspolitik](#) i Danmarks Statistik.

8.10 Confidentiality - data treatment

The statistics are published at an aggregation level, which does not necessitate 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, Business Statistics. The contact person is Mads Haaning Andersen, tel.: + 45 5185 7627, and e-mail: MHG@dst.dk.