

**Documentation of statistics for
Harvest of Cereals etc. 2026**

1 Introduction

The statistics illustrate the Danish harvest of grain, rapeseed, legumes and roughage. The statistics are used for research, EU reporting, calculation of GDP and energy and feed accounts. The statistics have been compiled since 1875, but in their current form are comparable from 1971 onwards. The statistics complement other statistics on vegetable production, including Production of fruit and vegetables.

2 Statistical presentation

The statistics are an annual statement of the Danish harvest of grain, rapeseed, legumes, root vegetables and roughage, calculated in area (1000 hectares), average yield (hkg per hectare) and production (million kg). The statistics are calculated for crops and divided by region.

2.1 Data description

The harvest of grain etc. is an annual statement of the Danish harvest of grain and roughage calculated in area (1000 hectares), average yield (hkg per hectare) and production (million kg). The statistics are calculated for crops and divided by region.

The harvest of grain, rapeseed and legumes and straw

Calculation of the Danish harvest of grain etc. based on reports from farmers. In addition, the total production and use of straw is calculated.

Crops covered: winter wheat, barley, rapeseed, spring wheat, barley, rapeseed, rye, oats, triticale, field peas, broad beans and mixed crops.

In connection with the calculation, the total production and use of straw is also calculated. Annual production inventories have been prepared since 1970, while inventories of straw use have been prepared since 1972.

The statistics on cereals, rapeseed and peas and on straw are primarily a production inventory.

Includes the harvest of winter wheat, barley, rapeseed, spring wheat, barley, rapeseed, rye, oats, triticale, field peas and mixed crops. For each crop, information is collected via questionnaire on cultivated area, total yield (hkg), average yield (hkg/ha) and water percentage if the yield is not stated in dried weight. The water percentage is used for calculations with a standardized water percentage (15 percent for cereals and dry pulses and 9 percent for rapeseed).

Harvest of corn to maturity (corn kernel) is included in the statistics from 2011.

The statistics concerning straw illustrate the production and use of straw for the above-mentioned crops. Production is calculated as a relationship between kernel yield (cereal, rapeseed and dry pulses) and expected straw yield, while the use of straw is based on questionnaire information on the distribution of straw areas used for heating, for feed, for other uses or for mulching.

As of 2006, the results are calculated based on the new administrative structure in Denmark for regions. Regions are divided into special agricultural parts (subdivisions of regions).

Harvest of roughage

Includes the harvest of root vegetables (potatoes, fodder beet, sugar beet) and grass, green fodder and residues (including grain and corn harvested for silage or green fodder).

Yields per ha is available from SEGES for potatoes, from Danish Sugar Beet Growers for sugar beet, while fodder crops are obtained from the accounting statistics for agriculture.

The yield information is combined with areas from GLR (farmers' applications for area subsidies).

Forecast for winter crops

Forecast for areas planted with winter crops for harvest the following year. The crops include: winter wheat, winter barley, rye, triticale and winter rapeseed. These are only calculations of areas at national level, but the results are also important for estimating the size of the next harvest. Forecasts have been prepared since 1967. Since 2002, they have been based on quantities of certified seed.

The forecast has been prepared since 2016 by DAKOFO and the Association of Danish Variety Owners. DAKOFO is a trade association for the grain and feed trade in Denmark. The Association of Danish Variety Owners represents plant breeders.

Seed

The basis for statistics on seed is data on certified quantities of seed in tonnes from the Danish Agricultural Agency and the Tystoftefonden. These are compared with historical relationships between seed and cultivated area. In addition, an assessment of the following factors is included:

- sales on the Danish market
- how much farmers actually managed to sow
- how much is exported
- Sowing times and the resulting changes in seed quantities per hectare.

The assessments have been made on the basis of expert estimates and reports from seed companies and commodity companies. Due to the element of estimation, the final figures will deviate from the forecast to a certain extent.

The forecasts up to 2015 have been prepared by Statistics Denmark, also based on data from the Danish Agricultural Agency and estimates from SEGES regarding winter rapeseed. Seed information comes from the Danish Agricultural Agency and Seges. Revised area information from 'Harvest of grain, rapeseed and peas as well as straw'.

Results for seeds for sowing (areas, hectare yields and total yield) are provided nationwide for almost 20 seed varieties. With regard to yield, this is a purified quantity. The statistics are based on data from [Tystoftefonden](#) on cultivated, certified areas and certified production. Seeds for sowing are included in the calculation of BFI for agriculture.

2.2 Classification system

Geographical breakdown

The harvest of cereals etc. is divided by [Agricultural provinces](#).

Crops

All crops follow the EU classifications in "Eurostat Handbook for Annual Crop Statistics".

2.3 Sector coverage

The agricultural sector.

2.4 Statistical concepts and definitions

Area for application : Agricultural areas comprised by application for direct support to the Agency of Agriculture. Each area specifies a crop.

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

Area under cultivation : Agricultural areas where a given crop is cultivated. The crop will most often correspond to that specified in the area for application, but may differ as a result of a changed cultivation plan.

Aftermath: Harvesting of small crops (grass or clover, etc.) in fields where the same or another crop has previously been harvested. The area is also included under the first crop (typically grain).

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

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

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

Straw yield : The amount of straw, calculated from the yield of the individual crops.

Whole crop/silage: Crops where the whole plant is harvested green and used for feed. Wholecrop is cut and preserved as silage or used directly.

Yield, kernel : Harvest of grain, measured by weight of the kernel.

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.

Organic crops : Crops grown according to organic principles set by Danish authorities.

Rotation: Alternating crops. Characteristic of areas in rotation is that tillage is harvested and carried out (plowed/harrowed). If an area is not harvested or tilled for five seasons, it is considered "permanent" (eg. grass).

Dry weight : The yield of cereals, etc. is indicated in dry weight (standard humidity). Dry weight means a water content of not more than 15 percent for cereals/peas/beans and no more than 9 percent for rape.

Spring crops : Crops that are sown in spring and harvested the same summer. Includes spring wheat, spring barley, oats and mixed seeds, corn cobs and spring rape.

Winter crops : Crops harvested in autumn and harvested the following summer. Includes winter wheat, rye, triticale, winter barley and winter rape.

Agricultural farm: A technical-economic unit producing agricultural products.

2.5 Statistical unit

- Crops
- Regions

2.6 Statistical population

The target population are farmers with production of the covered crops (cereals, canola, pulses, fodder crops).

2.7 Reference area

Denmark.

2.8 Time coverage

The statistics in their present form are generally available from 1990. However, see 'Comparability over time' for specification.

2.9 Base period

The statistics cover harvest in the calendar year.

2.10 Unit of measure

- Land: 1000 hectare.
- Average yield: hectokilo per. hectare. 1 hkg = 100 kg.
- Production: million kilo.

2.11 Reference period

The statistics cover harvest in the calendar year.

The harvest of cereals, rape etc.

The end of the harvest each year (typically in early September). In practice most crops are harvested by the end of September. However, grain maize and corn cob mix have often later harvest in November.

Harvest of roughage

30 Nov. in the reference year of the statistics.

The end of the harvest each year (typically medio November). In practice, most crops are harvested by the end of September. However, Grain maize and corn cob mix have often later harvest in November.

Areas planted with winter crops

The harvest period for the year to which the statistics refer. Data is collected the year before.

This date is usually the latest possible time of sowing.

2.12 Frequency of dissemination

The statistics are published annually.

2.13 Legal acts and other agreements

The Act on Statistics Denmark, corresponding to request in EU regulation on crop statistics, including forecasts.

Council Regulation 543/2009 relating to crop statistics and forecasts. Directive 1989/130 relating to production of straw incorporated in the Economic Accounts for Agriculture.

2.14 Cost and burden

1.1 man-years.

2.15 Comment

Additional information can be obtained from Statistics Denmark.

3 Statistical processing

Harvest of cereals, rapeseed and legumes: Data is collected annually from farmers via questionnaires and is debugged based on yield limits and added to the total population. Roughage: Data is collected from SEGES, Danish Sugar Beet Growers, DAKOFO, the Danish Agricultural Agency and Accounting Statistics for Agriculture. Where current data is missing, yields are projected from related crops with known trends.

3.1 Source data

Data for the statistics are collected from several sources, each covering different types of crops. In general, area information comes from the Danish Agency for Green Land Conversion and Aquatic Environment.

Harvest of cereals, rapeseed and legumes

Questionnaire-based survey with a gross sample of approximately 2,800 farms (approximately 8 percent of all farms) and a net sample of approximately 2,700 farms. The selection is random and stratified.

Forecast for winter cereals

Prepared by DAKOFO and the Association of Danish Variety Owners. DAKOFO is a trade association for the grain and feed trade in Denmark. The Association of Danish Variety Owners represents plant breeders. The forecasts up to 2015 have been prepared by Statistics Denmark, also based on data from the Danish Agency for Agriculture and Fisheries and estimates from SEGES regarding winter rapeseed. Seed information also came from the Danish Agriculture and Fisheries Agency and SEGES. Revised area information came from 'Harvest of grain, rapeseed and peas and straw'.

Harvest of roughage

The statement includes the following crops: seed potatoes, potatoes for flour production, table potatoes, sugar beet, fodder beet, lucerne, maize for feed, grain for ensilage, grass in rotation, grass outside rotation and arrears after grain and whole grain.

Yield per ha is based on various sources:

- Potatoes: yield estimate from SEGES
- Sugar beet: information from Nordic Sugar
- Arrears after grain and whole grain: the area is assumed to constitute 2.6 per cent. of the area with grain to maturity and 90 per cent. of the area with whole grain (expert estimate from 2017, together with the alfalfa calculation $1.38 \times$ whole grain)
- Other crops: information from the accounting statistics for agriculture, which contains both areas and production

Since the accounting statistics are available with a one-year delay, the yields per ha are projected based on related crops, where the correlation is high:

- Fodder beet is projected with the development for sugar beet
- Maize for feed is projected with the development for maize to maturity
- Whole grain and arrears after grain, alfalfa and whole grain are projected with the development for spring barley
- Grass is projected with the development for grain in total.

Example: Maize to maturity has a yield of 60 hkg per ha in 2018 and 75 in 2019. From the accounting statistics for agriculture, we know that corn for feed in 2018 has a yield of 320 hkg per ha. For 2019, the yield is therefore calculated as $320 \cdot (75/60) = 400$.

Seeds for sowing

Information comes from the Danish Agency for Green Land Redevelopment and Aquatic Environment.

3.2 Frequency of data collection

Annual.

3.3 Data collection

Data for the Harvest of Grain, Rapeseed, Peas and Legumes is collected annually from farmers via a web questionnaire. The sample is selected randomly and stratified.

- [Questionnaire and guidance for the Harvest of Grain, Rapeseed and Legumes](#)

Harvest of roughage, Forecast for winter seed and Seed for sowing are obtained from external experts and organisations (SEGES, Danish Sugar Beet Growers, DAKOFO, Association of Danish Variety Owners) as well as from the accounting statistics for agriculture and administrative registers from the Danish Agricultural Agency. Primarily existing data and expert estimates are used, and separate questionnaires are not sent to these groups.

3.4 Data validation

The collected data is debugged based on consistency rules and yield limits. Suspicious values are compared with previous years' results and with comparable farms.

For the harvest of grain, rapeseed and peas as well as straw, the reports are checked against average yields and against previous years' harvest data.

The forecast for winter grain is based on data and expert assessments from DAKOFO. Since the forecast is based on estimates, the final results may deviate slightly from the forecast.

3.5 Data compilation

Estimation of average yields in the Harvest of cereals, rapeseed and legumes

Average yields are estimated at different levels (agricultural sector, size, ecology). In each stratum, the first estimate is used, which is calculated on at least 5 observations. Small groups can therefore share average yields for safety reasons. In practice, this means that at the regional level, many average yields will be the same, namely the national level.

Water percentage

The production of crops and straw is calculated according to standardized water percentages. These are based on optimal, average values for the individual crops at harvest, estimated by SEGES and other experts. In the study of the harvest of cereals, rapeseed and legumes, the individual farm indicates the water percentage if it deviates from the standard, and production/yield is converted proportionally. For other crops, agricultural consultants indicate if the year's harvest deviates from the standard percentage.

Standard water percentages used:

- Grains, field peas and other legumes: 15 percent
- Rapeseed: 9 percent
- Grass and clover in rotation: 50 percent
- Lucerne: 40 percent
- Maize for ensiling etc.: 45 percent
- Grains for ensiling etc.: 17 percent.

No correction to standard water percentage for roughage.

Straw

The total harvest yield in weight is converted to straw yield using standard factors. Straw includes standard water content (see percentages above).

Conversion factors from grain yield (kg) to straw yield (kg):

- Winter wheat: 0.55
- Spring wheat: 0.50
- Rye: 0.80
- Triticale: 0.80
- Winter barley: 0.55
- Spring barley 0.55
- Oats 0.60

- Mixed grain 0.60
- Other grain 0.80
- Maize to maturity 0.80
- Rapeseed 0.90
- Field peas 0.50
- Broad beans 0.50
- Sweet lupine 0.50

Calculation of arrears after grain and whole grain

The area with arrears after grain and whole grain is calculated as 90 percent of the area with whole grain plus 2.6 percent of the area with grain to maturity. The average yield for arrears after grain and whole grain is calculated at 54.7 hkg per hectare (2024). This figure is projected annually with the development in yield per hectare for spring barley. Production is calculated based on the area and the average yield.

Roughage and root vegetables

Current yields are not available for several roughage crops, as the Agricultural Accounts Statistics are published with a one-year delay. The yields are therefore projected with the development in related crops, where there is a stable historical relationship:

- Fodder beet: last year's yield per ha
- Maize for feed: projected based on information from SEGES Sortinfo (e.g. $490/545 = 0.90$ for a drop in yield from 542 to 490 hkg)
- Cereals for whole grain: projected with the development for spring barley to maturity
- Grass in rotation: last year's yield per ha
- Grass outside rotation: projected with the development for total grain to maturity

Expert estimates from 2017 are used for alfalfa ($1.38 \times$ whole grain) and for arrears after cereals and whole grain, where the yield is projected annually with the development for spring barley.

3.6 Adjustment

No further corrections of data in addition to what has already been described in 'Data validation' and 'Data processing'.

4 Relevance

The users are mainly EU and agricultural organizations. The results are included in the agricultural gross factor income. Information on the use of straw for fuel is used, among other things by the DEA.

User needs are covered in the User Committee for food statistics. Statistics Denmark is also in regular contact with key users, including the Ministry of Food and research institutions.

4.1 User Needs

The most important users are the EU and agricultural organisations. The data on production are also used in compiling the Economic Accounts for Agriculture (EAA). The use of straw for fuel is used by, e.g. the Danish Energy Agency.

4.2 User Satisfaction

Statistics Denmark is in regular contact with key users, including the Ministry of Food and Agriculture and research institutions.

4.3 Data completeness rate

Data comply with EU regulations and guidelines.

5 Accuracy and reliability

The response rate for the calculation of the harvest of grains, rapeseed etc. is over 95 per cent. Precision meets EU quality requirements.

For roughage, the accuracy must be considered reasonable for average yields, while it is high for area information.

The forecast for winter seed areas usually deviates by 5-10 percentage points from the later established cultivated areas.

5.1 Overall accuracy

The overall accuracy in the survey of the harvest of grain, peas and rape can be described as good. However, there is some uncertainty for crops grown in small regions at national level, particularly with regard to spring rape.

For coarse fodder and root crops, reliability must be considered reasonable for average yields, while it is high for area information.

The reliability of the forecast for winter areas must generally be described as less good than the harvest survey.

5.2 Sampling error

The harvest of cereals, rape and peas and pulses

Sample of approximately 2,800 farms (about 8 per cent of all farms). The response rate in the survey is generally over 95 per cent, and does not raise significant uncertainty.

The coefficient of variance of the total harvest of cereals, rape and pulses is about 0.3 per cent., corresponding to about 30,000 tons. grain. For crops with limited distribution, the uncertainty is typically up to 5 per cent.

The statistical uncertainty meets the quality requirement in EU act on harvest statistics.

Because of greater spread in the use of straw than in crop yields, the uncertainty of straw use for different purposes is relatively larger than the uncertainty harvest of cereals, rape and peas.

Harvest of coarse fodder

The response rate in the study of forage harvest is somewhat smaller than 100 per cent., which is a source of uncertainty.

Areas planted with winter crops

No sampling errors as such. The ratio of the areas in the forecast and recent areas recorded indicates an uncertainty of the order of 5 per cent of the total areas with winter seed.

Coefficient of variance (CV) for the main variable in 2017

The harvest of cereals, rape and peas and pulses

Production

- Total cereals 0.3
- Winter wheat 0.3
- Spring wheat 1.6
- Rye 0.9
- Triticale 2.2
- Winter barley 0.6
- Spring barley 0.4
- Grain maize and corn cob mix 4.4
- Oats and mixed grain total of 1.3
- Havre 1.3
- Mixed grain 4.7
- Rape, total 0.6
- Winter rape 0.6
- Spring rape 14.3
- Pulses 4.6
- Field peas 4.6

5.3 Non-sampling error

Applications for EU support are the base for the study of the harvest of grain, etc. Since only a small proportion of farmers have production without EU support the coverage of the target population is assumed to be accurate.

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 overall accuracy in the survey of the harvest of grain, peas and rape can be described as good. However, there is some uncertainty for crops grown in small regions at national level, particularly with regard to spring rape.

For coarse fodder, reliability must be considered reasonable for average yields, while it is high for area information.

The reliability of the forecast for winter areas must generally be described as less good than the harvest survey.

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

Provisional results for harvest of cereals, pulses and rape seed are in line with final results published later on.

Other results are only prepared once every year, and consequently provisional and final figures cannot be distinguished.

6 Timeliness and punctuality

The statistics are usually published without delay to the scheduled date.

Preliminary data for the harvest of cereals, rape and pulses are published in late November. Final statement, including results for provinces and regions are published April of the following year, where the coarse fodder harvest also is published. End of reference Period: October 1.

Harvesting of roughage is published April of the following year. End of reference Period: end of November.

The forecast for the following year's winter land released in early December. End of reference Period: October 15

6.1 Timeliness and time lag - final results

The statistics are published annually.

Provisional figures for the harvest of cereals, rape and pulses are published at the end of November. Final figures are available in April of the following year, together with the statistics on the harvest of roughage.

The forecast for areas with winter seeds of the following year appear at the beginning of December.

Data on seeds for sowing appear in Statistics Denmark's Statbank.

6.2 Punctuality

The statistics are usually published as scheduled.

7 Comparability

Similar statistics are produced among EU members and are available from the Eurostat's website. The statistics comply with EU standards.

Harvest figures are in principle comparable back to 1900 but with methodological changes along the way. The current calculation method has in principle been used since 1971. The statistics for the new regions of the country are made from 2006. Thus there for 2006 is both a statement of the then counties, and the current regions.

7.1 Comparability - geographical

Similar statistics are produced among EU members and are available from the Eurostat's website. The statistics comply with EU standards.

7.2 Comparability over time

The final figures on crop yields are, in principle, comparable as far back as 1900. Changes in methodology must be taken into account, but the present compilation method has been used since 1971. The results on crop yields at regional level are only comparable as from 2006 due to a new administrative structure of regions in Denmark. For 2006, results are compiled on the basis of the former counties as well as the present regions. Figures on coarse fodder are fully comparable as from 1982 and onwards. The change in methodology, which applied for the 2001 survey to the 2002 survey (taking specific account of organic production) as well as the change in the basis of areas (from 2005) may, to a minor extent, have an impact on the data comparability.

Until 2021, the statistics have converted the total harvest yield by weight into 'feed units'. Conversion factors from kernel yield (kg) to feed units (FE): Winter wheat: 1.0241; Spring wheat: 1.0241; Rye: 1.0000; Triticale: 1.0000; Winter barley: 0.9551; Spring barley: 0.9551; Oats: 0.7944; Mixed seed: 0.7944; non-food: 1.7037; Field peas: 1.0897.

7.3 Coherence - cross domain

Similar statistics are produced among EU members and are available from the Eurostat's website. The statistics comply with EU standards.

The forecast for areas with winter seeds can be compared with the later results according to the Agricultural and Horticultural Survey.

7.4 Coherence - internal

Data is internally consistent, deriving from the same source.

8 Accessibility and clarity

The statistics are published in the StatBank under [Crop production](#) and in a Danish press release.

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

The statistics are published in a Danish press release: [Nyt fra Danmarks Statistik](#).

8.5 Publications

The statistics are not published in independent publications.

8.6 On-line database

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

- [HST88](#): Harvesting of grain, rapeseed and pulses by province, crop and unit
- [HST89](#): Harvesting of grain, rapeseed and pulses by crop, production method and unit
- [FRO](#): Grass seed production by crop, unit and time
- [HST5](#): Forecast on winter crop products for harvest by crop, unit and time
- [HALM2](#): Straw yield and use by region, crop, unit, use and time

8.7 Micro-data access

Researchers and other analysts from authorized research institutions, can be granted access to the underlying micro-data by contacting [Denmark's Data Portal](#).

8.8 Other

These statistics are available through Eurostat's statistical [database](#).

8.9 Confidentiality - policy

[Data Confidentiality Policy](#) for Statistics Denmark is applied.

8.10 Confidentiality - data treatment

The statistics are not published on a level that requires confidentialisation.

8.11 Documentation on methodology

Not relevant for these statistics.

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 Martin Lundø, tel.: + 45 5146 1512 and e-mail: MLU@dst.dk.