

**Documentation of statistics for  
Pigs 2019**

## 1 Introduction

The statistics on the stock of pigs shows the total number of pigs in Denmark. It aims, among other things, to form a basis for forecasting future slaughters and future stock of sows. The statistics are also used for different economic and environmental estimations and analyses. The stocks of pigs have been compiled since 1915 but with slightly different methods used over time. The last change was in 01 April 2018. The difference in the number of pigs for new and the old method of analysis is below 1 per cent. The statistics are considered to be comparable from 1998 onwards.

## 2 Statistical presentation

The pig survey are a sample survey published every quarter as the numbers of pigs in thousand. The stock of pigs is further divided into 10 sub-groups, including sows for production, piglets, weaned pigs and pigs for slaughtering. The data series with the total stock of pigs (pigs, total) are published both with and without seasonal adjustment. The statistics are published in the newsletter *Nyt fra Danmarks Statistik* (in Danish only) and in the Statbank.

### 2.1 Data description

The pig surveys are a estimation of the total number of pigs in Denmark at the first day in every quarter. The statistic are based on a sample from a population includes all active farms in Denmark, which is registered with pigs in [the Central Livestock Register \(CHR\)](#). The stock of pigs is further divided into 10 sub-groups and a total for the stock of sows. The data series with the total stock of pigs (pigs, total) is seasonally adjusted.

### 2.2 Classification system

The stock of pigs is grouped as **total number of pigs** with the following 10 sub-groups:

- Boars for service
- Pigs for breeding (over 50 kilo)
- Sows (gilts) covered for the first time
- Other sows to farrow
- Barren sows
- Sows with litters
- Piglets at sows
- Weaners under 50 kilo
- Pigs for slaughtering, 50 kg and over
- Boars and sows for slaughter

In addition the **total number of sows** are published based on summation of:

- Sows covered for the first time
- Other sows to farrow
- Barren sows
- Sows with litters

### 2.3 Sector coverage

The agricultural sector

## **2.4 Statistical concepts and definitions**

Other sows to farrow.: Other sows, which are mated and they are expected to be pregnant. Sows to farrow for the first time are not below other sows.

Boars for service: A boar is a male pig on 50 kilo or more used for breeding.

Sows with litters: Sows with piglets where the piglets teat at the sow.

Weaned pigs under 50 kg: Consists of piglets (from 7 to 35 kilo) taken from their mother and young pig up to a weight of 50 kg.

Barren sows: Sows, for breeding, which are not yet pregnant or have piglets, which teat at the sow.

Sows to farrow for the first time: Female pig that is pregnant for the first time.

Agricultural farms in Denmark: A technical and economic unit producing agricultural products, either livestock or crops.

Sows and boars taken out for slaughter: Breeding boars and sows for slaughtering, as they are not to be used in breeding anymore.

Piglets: Newborn pig that still feeds on the sow.

Sows, total: The total number of sows, which are the sum of: Pigs (over 50 kilo) for breeding, Other sows to farrow, Sows with litters and Barren sows. A sow is a female pig used for breeding.

Pig (over 50 kg) for breeding: Female pig (over 50 kg) for breeding and they has not yet paired the first time.

Pig: The term "pig" means domestic animals of the species *Sus scrofa domesticus*.

Pigs, total: The total number of pigs in Denmark.

## **2.5 Statistical unit**

Pigs

## **2.6 Statistical population**

The total number of pigs in Denmark.

## **2.7 Reference area**

Denmark.

## **2.8 Time coverage**

The statistics cover the period from first quarter 1998 and onward. Older time series are described under Comparability over time.

## **2.9 Base period**

Not relevant for this statistics.

## **2.10 Unit of measure**

The unit of measure is number of pigs in 1000.

## **2.11 Reference period**

The survey date is the 1st day in each quarter i.e. 01 January , 01 April, 01 July and 01 October.

## **2.12 Frequency of dissemination**

The statistics are published quarterly.

## **2.13 Legal acts and other agreements**

The legal authority to collect data is provided by the Act on Statistics Denmark, section 8.

The statistics are regulated by [EU Regulation \(EC\) No 1165/2008 of the European Parliament and of the Council](#) of 19 November 2008 concerning livestock and meat statistics.

## **2.14 Cost and burden**

The response burden is calculated at 600,000 DKK in 2014.

## **2.15 Comment**

For further information please consult the subject page [Livestock](#) or contact Statistic Denmark.

## **3 Statistical processing**

Data for the pig survey is collected by means of web questionnaires or by means of the system to system solution ArgoSofts Winsvin. A sample of about 2.000 holdings with pigs according to the [The Central Husbandry Register \(CHR\)](#) is selected. The survey is a sample survey divided into groups (strata) by the size of pigs and types of pigs on the single holding. Farms with many pigs are selected every time. The answers are validated for unrealistic values and next the sample is extrapolated to the total population of all farms with pigs.

### 3.1 Source data

The pig survey is a sample survey, The population includes all active farms in Denmark and is integrated in the Statistical Business Register (ESR) (CHR)[<https://chr.fvst.dk>], which is kept by Statistics Denmark, and which is registered with pigs in the [Central Livestock Register \(CHR\)](#).

In the selection of the survey population, the holdings are divided into 22 strata according to the types of pigs and the number of pigs in total on the holding obtained by the latest count of pigs from the holding. These data can originate from either the pig survey or [The Agricultural and Horticultural Survey](#) depending on which count was the latest for the specific holding.

All farms with at least 5,000 sows and all farms with at least 10,000 pigs for slaughtering or piglets are selected each time, while the selected in other strata are random, however, a holding will at maximum participate 8 consecutive times in the sample.

The size of the sample: - 01 January 2019: 2,201 farms with pigs out of 3,254 farms with pigs - 01 April 2019: 1853 pig farms out of 3,156 farms with pigs - 01 July 2019: 1848 pig farms out of 3,125 farms with pigs - 01 October 2019: 1850 pig farms out of 3,089 farms with pigs

### 3.2 Frequency of data collection

Data are collected quarterly.

### 3.3 Data collection

Data collection takes place via questionnaires using an electronic reporting form <http://www.Virk.dk>. Statistics Denmark uploads questionnaires to the respondents, in which they are required to report data to the statistics. Online form and instructions can be found on the [information page on http://www.dst.dk](http://www.dst.dk) (in Danish). Alternatively the system-to-system Agrosoft [WinPig.NET](#).

### 3.4 Data validation

The statistics go through an validation process. The online reporting ensures that all questions are answered. In the case of on-line reporting, there is a soft validation where the reporters are made aware of values that seem unlikely, so that they can correct them before submission if they are actually incorrect values. In the next phase, the responses received are processed in a database where the reporting is mixed compared with previous periods. Extreme values and large fluctuations are felt. The information is compared with previous reports and information in the central livestock register and corrections are made. However, errors are sometimes corrected only after telephone contact with the farmer. In the last part of the validation, the enumerated figures are examined and extreme developments in the form of large increases or large falls are investigated in more detail.

### **3.5 Data compilation**

The statistics on the stock of pigs is a stratified sample census where all farms with pigs according to the Central Livestock Register [CHR](#) constitutes the frame population.

These farms are provided with information on the number of pigs and types of pigs from the most recent pig or agricultural and horticultural counts in which the holdings participated. Based on this information, the population is divided into 22 strata. New farms with pigs are placed in their suitable stratum, as are specially selected farms. Farms that have zero pigs according to the latest census information (but are registered with pigs in CHR) are divided into 5 strata, herds with sows are divided into 8 strata, herds with pigs and piglets are divided into 6 strata and finally are ornamental statistics in a separate statute.

When forming the frame population, companies are not included in bankruptcy and suspension of payments. If bankruptcy, suspension of payments etc. after the farm has been selected for the sample, check in the Central Livestock Register (CHR) whether pigs are still on the property. If there are no more pigs on the property, zero pigs will be reported. If there are still pigs on the property, it is assessed individually whether latest data from previous count can be used. If this is not possible, the unit is not included in the list.

The data collected is enumerated for the population. In case of non-response the farm is excluded from the sample and the extrapolation is increased accordingly for stratum where non response occurs. The non-response is about 5-10 per cent.

### **3.6 Adjustment**

The data series with the total stock of pigs (pigs, total) are published both with and without seasonal adjustment. At each quarterly publication the seasonally the seasonal adjusted series in Statbank Denmark are revised three years back in time. Older data are final.

## **4 Relevance**

The pigs survey is of great interest to EU, the Ministry of Environment and Food, The Danish Association of Slaughterhouses and others farmer's organizations, but also students and interested people in general. The most important purposes of pig surveys are to provide a basis base for forecasts of pigs for slaughter. The statistics are used in financially and environment studies.

### **4.1 User Needs**

The pig survey is of great interest to EU, the Ministry of Environment and Food, The Danish Association of Slaughterhouses and others farmer's organizations, but also students and interested people in general. The most important purposes of pig surveys are to provide a base for forecasts of pigs for slaughter. The statistics are used in financially and environment studies.

### **4.2 User Satisfaction**

Statistics Denmark is continuously in contact with the users of these statistics. In addition there is a User Committee for Food Statistics where any issues related to the Pig Statistics can be addressed.

### **4.3 Data completeness rate**

This statistics affected by demands from EU in 1165/2008.

## **5 Accuracy and reliability**

The greatest factor of inaccuracy is updating and matching of the different registers. The relative standard deviation - sampling errors - for pigs is 0.5 per cent to 1.5 per cent. A maximum of 2 per cent has to be observed to meet EU's requirements. As part of a quality assessment statistical errors are calculated for all variables.

### **5.1 Overall accuracy**

The population includes all active farms in Denmark and is integrated in the Statistical Business Register (ESR), which is kept by Statistics Denmark, and which is registered with pigs in the Central Livestock Register (CHR). In order to ensure that the population is up to data Statistics Denmark regularly makes register merges with IACS and every quarter with the Central Livestock Register (CHR). The assumption is that if a farm applies for single payment or reports livestock to the livestock register it must be expected to be active in agriculture and should accordingly be marked as such in the register of Statistics Denmark.

### **5.2 Sampling error**

The standard deviation - sampling errors - for pigs is 0.5 per cent to 1.5 per cent. A maximum of 2 per cent has to be observed to meet EU's requirements. As part of a quality assessment statistical errors are calculated for all variables.

When the holdings are selected, they are divided into 22 strata according to the type of pigs and total number of pigs at the holding. The number of pigs is information from the last survey in which the holding has participated. If a holding with sows has 5,000 pigs or more, it will always be in the pig survey. If a holding with weaners under 50 kilo and pigs for slaughtering has 10,000 pigs or more, it will always be in the pig survey. All the other holdings are selected randomly for the first time, and then the holding will be included in the sample at a maximum of 8 times. The selection method is optimum, i.e. the strata of the total sample are divided so that the variance of the estimated total number of pigs is minimized.

### **5.3 Non-sampling error**

From the census of April 1, 2018 a new stratification of the pig population has been applied. However, this has minimal significance for comparability, a difference of less than 1 per cent has been found. on this calculation method and earlier.

The farmer has to count the pigs at the first day in the quarter.

There are a little more uncertainty about when a female pig over 50 kilo is count as a female pigs for breeding or as a pig for slaughtering.

An other source to mistake, can be that the farmer "forgot" to include pigs from all his farms, especially from renting farms.

The split of pigs below and respectively a live weight of 50 kg can be a little uncertain as in the farm the pigs is normally spilt a live weight of 30 kg.

### **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 information is reliable and provides a good basis for preparing forecasts.

### **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**

Only final figures are published. However, the seasonally adjusted figures are revised back in time on an ongoing basis if the seasonal pattern changes, although never more than three years back in time.



## **6 Timeliness and punctuality**

The figures are usually published without delay in relation to the scheduled data, however with some exceptions in 2012 and 2013.

### **6.1 Timeliness and time lag - final results**

The survey are published quarterly, about 6 weeks after the survey date.

### **6.2 Punctuality**

The statistics are usually published without delay in relation to the scheduled date, however with some exceptions in 2012 and 2013.

## **7 Comparability**

The pig surveys have been conducted in their present form since April 1974, but the number of pigs have been conducted at varying points in time and frequency since 1915.

### **7.1 Comparability - geographical**

Data for all EU countries can be found in the [Eurostat database](#) . The statistics are produced following principles of an EU regulation so the results are comparable. Statistic Denmark delivers every half year figures to the statistical office of EU, Eurostat.

## 7.2 Comparability over time

The most important changes took place in 1933 when pigs were classified to 10 groups, compared to 5 groups previously, and pigs were no longer classified according to age but according to their weight. Old data can be found on [LANDBRUGSSTATISTIK](#) and [LANDBRUG](#).

From the census of April 1, 2018, the punishment of the pig population has been changed. The new statement made a difference of less than 1 per cent. in relation to previous punishment and listing.

From 1 January 2016. Due to changes in the technical solutions for automatic reporting, in this publication, there is greater uncertainty about certain types of pigs. This is especially about placement in the type of lactating sows, respectively. Golden and pregnant sows. This can also affect the relationship between piglets per sow, usually 12.4 piglets per sow. So, but this time 12.1. There is also a little greater uncertainty as to when a pig of more than 50 kg is calculated as a breeding animal or as a pig for fattening.

From 1 July 2011 the number of units in the population was reduced from all holdings (about 46,000) to all holdings with pigs (about 5,500).

In 1946 the survey was extended to include all Denmark, compared to only rural municipalities previously.

Over the years that followed the classification of pigs has seen minor changes.

In 1974 the census method and the census groups were changed to comply with an EC Directive.

From 1980 when the number of sampling units were reduced from 10,000 to 5,000 it has not been possible to publish regional figures.

From 1 January 1998 the groups of piglets under 20 kg and weaners 20-50 kg were altered to suckling pigs with sows and weaners under 50 kg.

From 1 January 2004 the number of sampling units were reduced from 5,000 to 3,500.

From 1 July 2011 the number of sampling units were reduced from 3,500 to 2,500.

The number of sampling units was extraordinary 2,800 at the 1 April 2012.

From 1 July 2011 the number of units in the population was reduced from all holdings (about 46,000) to all holdings with pigs (about 5,500).

### **7.3 Coherence - cross domain**

Every year the Agricultural and Horticultural Survey is public and there is it possible to find figures on the total number of pigs. See Stat Bank

[Livestock by county, unit and type](#)

[Livestock by area, unit and kind](#)

[Livestock by unit and size of herd](#)

[Livestock combination with cattle and pigs by region, type and unit](#)

There are some different in the figures in the two surveys because of different samples and populations. See the Documentation of Statistics for Agricultural and Horticultural Survey for more information.

### **7.4 Coherence - internal**

Not relevant for this statistics.

## **8 Accessibility and clarity**

These statistics are published semiannually in a Danish press release and quarterly in the Statbank table [SVIN](#). For further information, see the subject page for [Livestock](#). Data with long timeseries can be find on [Livestock \(historic\) by type of livestock](#).

### **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 news release, NYT from Statistics Denmark. [Svinebestanden](#).

### **8.5 Publications**

Data are public in Statistisk Tiårsoversigten and Statistical Yearbook.

### **8.6 On-line database**

The statistics are published in the StatBank in the following table:

### **8.7 Micro-data access**

There is no micro-data access.

### **8.8 Other**

Two times a year Denmark must deliver data to Euro stat. There a delivered some aggregated data, which are not public national.

For figures for all countries in EU see [Eurostats databank](#).

The figures between the countries can be compare as the figures are produces after the same instructions and principles.

### **8.9 Confidentiality - policy**

In the compilation of the herd of pigs, the confidentiality policy of Statistics Denmark is followed [Datafortrolighedspolitik](#).

### **8.10 Confidentiality - data treatment**

These statistics are not published on a level of detail that necessitates confidentiality”. In the compilation of the herd of pigs, the confidentiality policy of Statistics Denmark is followed [Datafortrolighedspolitik](#).

### **8.11 Documentation on methodology**

Not relevant.

### **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 this statistics are in the division of Food Industries. The person responsible is Mona Larsen, tel. + 45 39 17 33 99, e-mail: [mmla@dst.dk](mailto:mmla@dst.dk)

### **9.1 Contact organisation**

Statistics Denmark

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Food Industry, Business Statistics

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