

**Documentation of statistics for
Production of Fruit and Vegetables 2014**

1 Introduction

The statistics on fruit and vegetables is from 2014 integrated in the Agricultural and Horticultural Survey (see its documentation).

The statistics on fruit and vegetables is based on five separate surveys conducted with yearly intervals:

Outdoor vegetables and strawberries, which includes peas for canning. Greenhouse production, which also includes pot plants and nursery activities. Berries and stone fruit, covering other berries than strawberries and apples and pears. Fruit tree survey (permanent crops) which covers apples and pears. *Nursery sector survey* (outdoor), which includes seedlings etc.

2 Statistical presentation

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2.1 Data description

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- Outdoor vegetables and strawberries, which includes peas for canning
- Greenhouse production, which also includes pot plants and nursery activities
- Berries and stone fruit, covering other berries than strawberries and apples and pears
- Fruit tree survey (permanent crops) which covers apples and pears
- Nursery sector survey (outdoor), which includes seedlings etc.

The reason for the separate counts is partly that the businesses can be divided into relevant sub-sectors with limited overlap of crops, and that it offers practical benefits defining questionnaire content and workflow. In the years with no data collection, estimates are produced. Results are disseminated at a regional level, while estimates for intermediate years are disseminated at national level.

Data on fruits and vegetables are transmitted to Eurostat each year, cf. EU regulation. The regulation does not include ornamental plants and nursery products, but only edible products, including mushrooms.

Organic production

Apart from *Outdoor vegetables and strawberries* organic production is not specified as it remains marginal. There are precise area statistics for organically grown crops, based on information from the Danish Agricultural Agency. The calculation of the organic part is related to organic authorization of the farm. It is possible that only parts of a farm is organic, which is a source of possible error.

Outdoor vegetables and strawberries

Cultivated area and production (yield). Harvested areas (permanent crops may have areas that are not harvested). Organic share of area and production.

Recent survey year: 2012.

Covered crops

- Cauliflower
- Broccoli
- White- and pointed cabbage
- Red cabbage
- Other cabbages
- Leeks
- Iceberg lettuce
- Other lettuces
- Spinach
- Asparagus
- Sweet corn
- Other leafy or stalked vegetables
- Large cucumber
- Squash
- Other vegetables cultivated for fruit
- Carrots
- Onions
- Celeriac
- Jerusalem artichoke
- Beetroot
- Parsnip
- Other root, tuber and bulb vegetables
- Peas for canning
- Other pulses
- Sweet corn
- Strawberries
- Herbs
- Other vegetables

Greenhouse production

Covers also potted plants.

Cultivated area and production (yield) - a few products exempted. Greenhouses age, heated area, water consumption and energy consumption.

Recent census year: 2011.

Greenhouse production is from 2014 integrated in * Agricultural and Horticultural Survey *.

Covered crops

- Lettuce
- Chery- and cocktail tomatoes

- Other tomatoes
- Cucumbers
- Herbs
- Other vegetables
- Flowers for cutting and bouquet foliage
- Potted plants
- Bedding plants
- Processing and experiment
- Other nursery products

Berries and stone fruit

Covers other berries other than strawberries and apples/pears.

Recent census year: 2013.

Cultivated area and production (yield). Harvested areas (permanent crops may have areas that are not harvested). In the census of 2010, 2009 production of cherries was also included because it was known in advance that the 2010 production of cherries was exceptionally low due to weather conditions.

Covered crops

- Sour cherries, Stevns-cherries
- Sour cherries, Kelleries
- Sour cherries, other
- Sweet cherries
- Plums
- Black currant
- Red currant
- Gooseberries
- Hipberries
- Blueberries
- Bush fruit, other
- Raspberries
- Blackberries
- Berries, other

Fruit tree survey

Specific counts of apple and pear trees.

Recent census year: 2012. Production, however, deals 2011.

Cultivated land production (yield) and trees on varieties and age.

The intention is to see, c.f. the special EU regulation, to evaluate the production potential. In addition, production of apples and pears for the last year is included for the interest of the general EU regulation.

Covered crops

- Apples (trees subdivided in varieties)
- Pears (trees subdivided in varieties)

Nursery sector survey

Covering the production of shrubs, seedlings, perennials, etc. Cultivated area and production (yield). Revenue and buy plants and whether there is retail sale of plants along with nursery business.

Recent census year: 2007 (new census is not planned).

Covered crops

- Fruit trees, bare root plants
- Fruit trees, container grown
- Fruit plants, bare root plants
- Fruit plants, container grown plants
- Budded rose plants / bare rooted
- Roses container grown
- Evergreen ornamental shrubs, rootballed
- Evergreen ornamental shrubs, container grown
- Climbers
- Deciduous ornamental shrubs, bare root/rootballed
- Deciduous ornamental shrubs, container grown
- Ornamental trees, bare root
- Ornamental trees, container grown
- Trees, whip
- Specimens (solitaires)
- Standard trees
- Rhododendron, Azalea - Heathers
- Rootstock/ Understock (cutting grown liners, seedlings)
- Hedging plants, bare root
- Hedging plants, container grown
- Conifers
- Deciduous trees
- Herbaceous perennials

2.2 Classification system

Regional breakdown

The harvest of cereals etc. are divided in specific agricultural regions (subdivision of administrative regions). It is chosen to show results for Copenhagen city, Copenhagen and North Zealand region collectively as "Copenhagen and North Zealand" and similar for the provinces East Zealand and West Zealand, which coincides with Region Zealand. North Jutland Region is not divided further. The breakdown is as follows:

- The whole country
- Capital Region
- Copenhagen city, Copenhagen area and North Zealand
- Bornholm
- Region Zealand
- South Denmark
- Funen incl. islands
- South Jutland
- Mid Jutland
- East Jutland
- West Jutland
- North Jutland

Crops

All crops follows the EU classifications.

2.3 Sector coverage

Horticulture and agriculture.

2.4 Statistical concepts and definitions

Under preparation.

2.5 Statistical unit

The data collection unit is farms/horticulture with production of fruit and vegetables. Statistical units are crops that are measured in area (hectare) or production (1,000 kilo).

2.6 Statistical population

The target population is agriculture and horticulture (farms) with commercial production of the covered crops.

2.7 Reference area

Denmark.

2.8 Time coverage

This type of statistics have been produced since 1955, annually up to 1983. Subsequently, there have been data collection every 3.-5. year.

2.9 Base period

The statistics covers harvest in the calendar year.

2.10 Unit of measure

- Grown and harvested area: Hectare. 1 hectare = 10,000 m².
- Production: tons.

2.11 Reference period

Except from the Fruit tree survey, the surveys covers the production in the calendar years. The reference period ends by the end of the year. For the fruit tree survey the reference date is May 1st. in the surveyed year.

2.12 Frequency of dissemination

Every 3rd year:

- Outdoor vegetables and strawberries
- Berries and stone fruit survey
- Green house survey

Every 5th year:

- Fruit tree survey

No new survey is scheduled for the *Nursery sector survey*.

2.13 Legal acts and other agreements

The Act on Statistics Denmark §6 and §8. Council Regulation 543/2009 (crop production) and 1337/2001 (permanent crops).

2.14 Cost and burden

For the respective surveys:

- Outdoor vegetables and strawberries. About 0.2 AWU every 3rd year
- Greenhouse production: About 0.2 AWU every 3rd year
- Berries and stone fruit: About 0.2 AWU every 3rd year
- Fruit tree survey: About 0.1 AWU every 5th year
- Nursery sector survey: About 0.1 AWU when conducted.

2.15 Comment

Additional information can be obtained from Statistics Denmark.

3 Statistical processing

Yields and production are aggregated to national level and regions . There has been no imputation , weighting or correction for the lapse . Dissenting yields / production directed against limit values .

3.1 Source data

The IACS Register, the Register of Agricultural and Horticultural Census, registers from Surveys, registers from producer associations, and data collected via questionnaires. For estimation of data for years without surveys, crop yields assessments from the Fruit and Berry Advisory Service is used as a source together with IACS-data.

3.2 Frequency of data collection

Every 3rd year:

- Outdoor vegetables and strawberries
- Berries and stone fruit
- Greenhouse production

Every 5th year:

- Fruit tree survey

No plans for a new data collection on the *Nursery sector survey*.

3.3 Data collection

Webform.

- [Questionnaire and guideline \(in Danish\) for Outdoor vegetables and strawberries](#)
- [Questionnaire and guideline \(in Danish\) for Berries and stone fruit](#)
- [Questionnaire and guideline \(in Danish\) for Greenhouse production](#)
- [Questionnaire and guideline \(in Danish\) for Fruit tree survey](#)

3.4 Data validation

Responses are validated by deviations from average yields.

3.5 Data compilation

Yields and production are aggregated to national level and regions . There has been no imputation , weighting or correction for the lapse . Dissenting yields / production directed against limit values .

3.6 Adjustment

No corrections of data in addition to what has already been described under 'Data Validation'.

4 Relevance

The users are mainly EU and agricultural organizations, the Danish AgriFish Agency, researchers etc.. The results are included in calculation of the agricultural gross factor income.

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

EU, Agricultural and horticultural organisations, the National Agricultural Agency researchers etc.

The results are also used in compiling statistics of Economic Accounts for Agriculture and GDP for agriculture.

4.2 User Satisfaction

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.

4.3 Data completeness rate

Data comply with EU regulations and guidelines.

5 Accuracy and reliability

The overall accuracy of the statistics can be described as good. There are no sampling errors as the data collection is a census. Measurement error on individual units may have visible impact, especially at the regional level.

5.1 Overall accuracy

As the survey is a census the overall accuracy of the statistics can be described as good. Measurement error on single units may have visible impact, especially at the regional level.

There may be some uncertainty in the individual respondent's statement of production, for example, if it is sold at different times.

Because of the thresholds in the surveys, the results will slightly underestimate the total areas and production as follows:

- Outdoor vegetables and strawberries: Less than 1 per cent.
- Greenhouse production: Less than 1 per cent.
- Berries and stone fruit: about 1 per cent.
- Fruit tree survey: 3-4 per cent.
- Nursery sector survey (outdoor): 1-2 per cent.

The results based on expert estimates are expected to be less accurate than the surveys. The areas estimates will be quite accurate, while the production will be less accurate. The stated under-representation also applies to estimates, as they are mostly based on displacement from the censuses.

5.2 Sampling error

There are no sampling errors as the data collection is a census.

5.3 Non-sampling error

Applications for EU support is the basis for the population. Since few manufacturers have production without European support must cover the target population is assumed to be relatively accurate.

There may be some uncertainty in the individual respondent's statement of production , for example if this is sold at different times.

In years with no survey the proction is estimated through expert estimates of the average yields on the national level, which may be associated with some uncertainty .

Object non-response are normally below 2 per cent . of the gross sample.

Item non-response usually include less than 5 per cent of observations which have imputed imputed one or more variables. Item non-response is not calculated on the single variable .

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 of the statistics can be described as good. There are no sampling errors as the data collection is a census. The response rate is generally over 98 p.c. and do not give rise to significant uncertainty. There is a slight uncertainty in the identification of all producers. Measurement error on individual units may have visible impact, especially at the regional level.

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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.

6 Timeliness and punctuality

Results are normally published ca. half a year after the reference time.

The statistics are usually published as scheduled.

6.1 Timeliness and time lag - final results

The statistics are usually published as scheduled.

6.2 Punctuality

The statistics are usually published as scheduled.

7 Comparability

In the Farm Structure Survey total areas are recorded for open field vegetables and fruit. The results are in definitions comparable with areas resulting from the specific surveys, but can because of different survey methods differ.

The Farm Account Data Network statistics also include areas and production of fruit and vegetables, based on samples and a high threshold. To some extent these data are comparable to data from the surveys.

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

7.1 Comparability - geographical

The statistics comply with EU standards. Similar statistics are produced among EU members and are available from [Eurostat's website](#).

7.2 Comparability over time

Figures for grown areas and crop yields are comparable with earlier published figures. Some crops or fruit trees may have been added or taken out of the questionnaires because of change of significance or legal base.

Strawberries have previously been part of survey on berries to Outdoor vegetable and strawberry survey. Peas for canning are included from 2009.

7.3 Coherence - cross domain

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7.4 Coherence - internal

Data for the various crops are collected in a uniform manner and are internally consistent.

8 Accessibility and clarity

NYT (News) from Statistics Denmark, Statbank.

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

8.3 User access

Statistics are always published at 9:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published. Theme publications etc. may be published at other times of the day. The National Statistician can decide that such publications may be released before their official publication time, e.g. to the media and other stakeholders.

8.4 News release

- [Newsletter\(in Danish\): Outdoor vegetables and strawberries, Berries and stone fruit, Greenhouse production](#)
- [Newsletter\(in Danish\): Fruit tree survey, Nursery sector survey](#)

8.5 Publications

[Statistisk årbog, Statistisk Tiårsoversigt \(selected results from the Statbank\)](#)

8.6 On-line database

- [Production of fruit and vegetables by region, unit and crop](#)
- [Greenhouses by region and structure](#)
- [The greenhouse sectors use by production, greenhousearea in square metre \(sq.m.\) and area and consumption](#)
- [Net area and density of trees for apples and pears by unit, kind and age of trees](#)
- [Nursery sectors structure and production by type \(DISCONTINUED\)](#)

The shown areas in GARTN1 and VHUS1 are provinces and regions. Some areas may be of discretion. Statistics Bank tables: FL1, FL2, FRUGT1, FRUGT2, FRUGT3, FRUGT5 and BAER discontinued, as their newer content is either transferred to GARTN1 or is covered by the tables of the Agricultural and horticultural survey. Information about the fruits and vegetables are reported to Eurostat, and are available in [Eurostat databank](#).

8.7 Micro-data access

The survey data can be made available as anonymised micro-data under a special arrangement for researchers.

8.8 Other

No further accessibility.

8.9 Confidentiality - policy

[Confidentiality policy](#)

8.10 Confidentiality - data treatment

Results at a regional level can be confidentialized for selected crops.

8.11 Documentation on methodology

No separate documentation of methodology.

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 statistic is in the division of Food Industries. The person responsible: Karsten Larsen, e-mail: kkl@dst.dk 3917 3378.

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