

13. AGRICULTURE

The agricultural industry embraces agricultural primary production enterprises engaged in crop production, animal production, and providing services for agriculture.

Since 2002 the Czech Statistical Office has harmonized statistical surveys according regulations and recommendations in force for the EU Member States. Data are mostly obtained in sample surveys, the sample of selected respondents is based on the updated Farm Register, and the results acquired are grossed up by means of methods of mathematical statistics. Nation-wide structural surveys, which cover all active agricultural entities, are conducted at longer time intervals within the framework of agricultural censuses. Since the aforementioned year all data have only been measured and grossed up for the agricultural sector and do not include household production of the population.

The basic unit in agricultural statistics is an agricultural holding defined by, at least, one of the threshold values: having agricultural land area under management of 1 hectare and more, 1 500 m² of grown intensive crops (orchards, vegetables, and/or flowers), 1 000 m² of vineyards, 300 m² of greenhouses and/or hotbeds, having a farm with the number of livestock from 1 head of cattle, 2 heads of pigs, 4 heads of sheep and goats, 50 heads of poultry, 100 heads of rabbits, and/or 100 heads of fur animals. Moreover, all enterprises engaged in fish farming in water bodies, irrespective of the water body area.

The structure of questionnaires on areas, yields, and production of crops used in the statistical survey on the **crop production** is arranged in compliance with requirements of international organisations. The crops are reported net, without mixtures.

Data on hunting and gamekeeping (CZ-NACE Group 01.7 Hunting, trapping and related service activities) and forestry (CZ-NACE Division 02 Forestry and logging) are presented in a separate Chapter 14. Forestry because the issues monitored rather relate to forest management and in order to maintain continuity with the previously published yearbooks.

Notes on Tables

Tables 13-1 to 13-4. Economic accounts for agriculture

The economic accounts for agriculture (EAA) are a fundamental methodological instrument to measure the economic size and performance of agricultural primary production. They include several basic aggregates:

- **output of the agricultural industry** is the sum of agricultural products and services produced by holdings operating in agriculture and inseparable side activities;
- **intermediate consumption** measures the value of own products, goods, and services consumed in the production process (excluding long-term assets, consumption of which is observed as the fixed capital consumption) and serves as one of the key indicators of the production intensity of agriculture. According to the Commission Regulation (EC) No. 909/2006 this consumption shall include FISIM (Financial Intermediation Services Indirectly Measured);
- **gross value added** indicates the resulting effect of agriculture measured as the difference between output and intermediate consumption. It is used to assess the efficiency of agriculture; and
- **net value added** is the value produced by all agricultural units, obtained by subtracting fixed capital consumption from gross value added.

The economic accounts for agriculture exclude units producing solely for their own self-consumption (kitchen gardens and private livestock raising at households). However, they include the agricultural output for own self-consumption of farmers whose holdings are larger than the bottom threshold (holding size).

The output is valued at basic prices, i.e. by the amount the producer receives from the buyer for a unit of goods or services produced by the producer, minus taxes on products plus subsidies on products.

The intermediate consumption is valued at acquisition prices of goods or services being valid in the moment the goods and/or services are entering the production process. The price includes taxes on products minus subsidies on products, except for VAT.

Table 13-5. Areas under crops

Areas under crops, which are measured by censuses taken as at 31 May, shall mean spring production areas (i.e., arable land areas; areas under crops in orchards and gardens, and areas of permanent grasslands temporarily ploughed and used for sowing) to be harvested in the reference year. They include:

- a) **areas under winter crops**, sown in the autumn of the previous year and maintained until the spring sowing in the reference year is finished by 31 May;
- b) **areas under spring crops**, sown in the spring of the reference year; and
- c) **areas under perennial crops**, sown in the past years and maintained till the sowing in the reference year is finished by 31 May.

The utilised agricultural land and arable land in this table is the land used for agricultural production and land, which has been utilised and shall be utilised in the future, but currently is not in use. The area of the utilised agricultural land refers only to the agricultural sector, i.e. excluding the household sector.

The **set-aside arable land** refers to areas of arable land, which are not sown or planted and which are not included into the total area under crops. The set-aside arable land encompasses fallow land and all arable land not sown or planted for whatever reason, including arable land temporarily set-aside or not cultivated in the reference year by 31 May.

Tables 13-6 to 13-9. Per hectare crop yields and harvests of crops

These tables list data from questionnaires on final harvests of crops as at the end of the year.

The **per hectare yield** is the ratio of the harvest to the production area.

The **harvest** represents the total quantity of a crop harvested at the standard moisture content and standard purity, including inferior portions of the crop that can be used, for instance, for feeding of livestock (corn tailings, undersized potatoes, etc.) and excluding seed crops and crop planting stock.

The **production area** is equal to the area reported as areas under crops, except for grain maize, green and silage maize, and permanent grasslands.

Table 13-13. Fruit trees and bushes, harvest of fruit

The **number of fruit trees and bushes** is obtained from processed questionnaires on final harvests as at the end of the year.

The **harvest** of respective varieties of fruit from fruit trees and bushes is determined by a sample survey as at the end of year, using questionnaires on final harvests of crops, and by grossing up by means of methods of mathematical statistics.

Table 13-15. Production of selected products in households

The table gives an overview of agricultural production in the self-supply area, implemented outside the agricultural sector in households of the population. The data represent an estimate based on results found on kitchen gardens of the household budget survey, survey on agricultural production in households, and annual data from the surveys on harvests and animal production.

Tables 13-16 to 13-20. Livestock and livestock density

The **livestock population** is derived from livestock surveys conducted as at 1 April of the following year.

Cows are breeding cows calved at least ones, both mated and non-mated.

Sows are breeding sows farrowed at least once, both mated and non-mated, excluding culled sows.

Poultry includes hens and cocks, geese and ganders, ducks and drakes, turkey hens and cocks, including young ones.

The **livestock unit (LSU)** is a conventional unit serving for the conversion of livestock animals of various species using established conversion coefficients. The conversion coefficients are: 0.4 for a bovine animal up to 1 year of age, 1.2 for a fattened bovine animal 1 year and over of age, 1.0 for other bovine animals of 1 year and older, 0.3 for a sow, 0.2 for other pigs, 0.14 for a sheep animal, 0.1 for a goat, 1.0 for a horse, and 0.004 for a head of poultry.

Tables 13-21 and 13-22. Animal production and livestock yields

The **production of livestock for slaughter** includes all sales of cattle and pigs for slaughter in the live weight (the number of pigs includes an estimate for home slaughtering), which were delivered to be slaughtered both in the Czech Republic and abroad.

The **poultry production** includes all sales plus in-house consumption of poultry for slaughter in the live weight.

The **number of weaned calves and piglets** is the difference between the numbers of animals born and lost by death, respectively, namely calves, which have died up to three months of age, and piglets, which have died before weaning. The number of born and weaned calves per 100 cows or the number of born and weaned piglets per 1 sow is calculated per the average population of cows or sows.

Death loss of calves or piglets, respectively is given as percentage of the number of born calves or piglets. The number of dead animals also includes discarded animals.

The **milk production** includes the amount of milk both milked for sale and milk sucked by suckling calves; the amount of milk sucked from cows, which are not milked for the milk production, is not counted in. The **average annual milk yield** is the quantity of milk produced in a year and calculated per 1 dairy cow (including dry cows, 60–20 days before calving).

The **average annual egg yield** is the number of eggs laid in a year and calculated per one hen; since 2010 it has been the number of eggs laid per one laying hen per year. The laying hen shall mean a hen, which has attained maturity for laying eggs and is bred for the production of eggs not intended for hatching.

Tables 13-23 and 13-24. Meat production in the carcass weight and the average live weight of animals for slaughter

The **meat production** in the carcass weight includes data from all abattoirs in the Czech Republic, irrespective whether slaughtered animals come from the Czech Republic or have been imported.

The **carcass weight** refers to the weight of carcasses as defined in corresponding regulations of the Council of the European Union. Emergency slaughters are counted in the carcass weight solely in the case the meat from such slaughter is used for human consumption.

The **live weight** is derived from the carcass weight. The average live weight of pigs does not include sows and boars.

Table 13-26. Total sales of main agricultural products

Total sales of main plant products represent all **sales by primary producers** to trade and processing companies, other sales to other purchasers different from these organisations, and direct exports. **Total sales of livestock for slaughter** include cattle, pigs, and poultry for slaughter from their own farm in the live weight. Data on sales of **eggs** include only eggs for human consumption, hatching eggs are excluded.

Table 13-28. Per capita consumption of selected kinds of food

Data on the industrial production, self-supply, initial and final stocks, and on imports and exports are used for the calculation. These data are obtained from the CZSO statistical questionnaires, furthermore from unions of food producers and certain organizations dealing with external trade, and from other institutions. The calculation is based on the mid-year population.

Tables 13-29 and 13-30. Consumption of fertilisers

Mineral fertilisers (nitrogenous, phosphorous, and potassium ones) contain the declared nutrients in the form of minerals obtained by extraction or by other physical or chemical process; include also urea and urea products.

Barnyard manure is a by-product of the animal raising and breeding or a product of culture plants cultivating, unless it is further treated. Natural processes of transformation during storage, mechanical separation of slurry, and the addition of substances reducing loss of nutrients or improving effectiveness of nutrients are not considered as a treatment.

Organic fertilisers contain the declared nutrients in an organic form (e.g. compost, digestate from biogas plants).

Organo-mineral fertilisers contain the declared nutrients in mineral and organic forms (e.g. enriched molasses stillage).

The **crop year** covers consumption from 1 July of the previous year to 30 June of the current year.

The **per hectare consumption** refers to consumption per cultivated (but not fertilised) land.

Because of the measuring method, consumption of fertilisers is given as excluding the portion consumed by holdings of self-employed farmers.

Tables 13-31 and 13-32. Agrocensus – agricultural holdings

Tables include all holdings, which meet at least one of criteria for classification to the agricultural sector, except for holdings active in fish farming.

Table 13-33. Agrocensus – workers in agriculture by age group

In case of holdings of **legal persons** labour force includes employees who have performed agricultural works during twelve months prior the data of survey in the holding and working self-employed persons (partners). In case of holdings of **natural persons** labour force includes holding owners, family workers of the owner regardless these persons receive wages or perform works on regular basis or not, and employees who have performed agricultural works during twelve months prior the data of survey in the holding.

Table 13-34. Agrocensus – machinery and equipment in agriculture

Table gives means of mechanisation in agricultural holdings regardless their technical shape and operability. Solely four-wheel tractors and four-wheel compact utility tractors (CUTs) are given here. Soil processing machinery includes all types of machines for tillage and soil treatment before sowing.

Data in Tables 13-31 to 13-34 are based on results of Agrocensus 2010 and are shown in comparison to results of Agrocensus 2000 while the results for 2000 were converted to the threshold values of 2010.

Agrocensuses are carried out once in a decade in accord with legal regulations of the European Union (Regulation (EC) No 1166/2008 of the European Parliament and of the Council of 19 November 2008 on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation (EEC) No 571/88).

According to the aforementioned regulation the Agrocensuses applied the threshold value for agricultural holdings of 1 hectare of agricultural land and it was set at such a level the survey does not cover merely smaller agricultural holdings, which in total account for maximum 2% of the total agricultural area managed and maximum 2% of the total number of livestock units. Thus the produced data represent 98% of agricultural land area and 98% of the total number of livestock units.

The threshold values set for Agrocensus 2010 were as follows:

- 5 hectares of managed agricultural land in own possession or rented; or
- 1 hectare of orchards, or 3 500 m² vineyards; or
- total area of vegetables, strawberries and flowers from the area of 2 500 m²; or
- breeding of 5 heads of cattle or 10 heads of pigs; or
- breeding of 10 heads of goats and sheep; or
- breeding of 100 heads of poultry, including paleognathes (*Palaeognathae*).

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Further data can be found on the web page of the Czech Statistical Office at:

- www.czso.cz/eng/redakce.nsf/i/agriculture_ekon