

2 Methodological notes

Tables published in the publication contain summarized grossed up results (the whole agricultural sector). These results were calculated using non-rounded values (with 6 decimal places). However, summary totals in the tables are not always equal to the sum of their sub-items which are published in a rounded form.

FSS included most applied characteristics of state nature. For these characteristics, the reporting units gave the value of indicator with reference to the state existing at the moment of the survey. Total results were then related to 30 September 2005. Due to the methodology (AWU - Annual Work Unit), the quantities concerning the use of labour force in agriculture were measured for the previous period (October 2006 to September 2007).

Table 1 Active entities in agriculture: by legal forms, 30 September 2007

The table contains data on number of active reporting units in agriculture and its utilised agricultural land broken down by legal forms.

Table 2 Principle agricultural production of the holding

Reporting units are broken down by their principal agricultural activity according to uniform NACE classification (Industrial Classification of Economic Activities). A production that represents at least two thirds of sales resulting from agricultural activities is considered to be a principal activity (a principal orientation of the agricultural production).

Growing of cereals and other crops incl. hop (code 0111) includes mainly cereals production, root crops, fodder roots, forage, oleaginous, hops, chicory, pulses, raw textile materials etc.

Table 3 Workers in agriculture: by age groups

Labour force of the holding of natural persons includes a holder, a husband/wife/spouse working on farm, holder's family members (without employment contract), who carry out farm work on the farm irrespective of whether they work regularly or not, regularly working employees. Holdings of legal persons supplied data for their managers and employed persons, for both their employees and working holders.

Table 4 Workers: by hours worked in the period of October 2006 - September 2007

The table contains a number of workers in categories that represent different shares of the annual fund of working hours. The annual fund of working hours is set at 1 800 hours and is based on the number of working days with 8 working hours a day minus minimum statutory claim for holiday and minus the average number of hours not worked for incapacity for work. This number corresponds to a full-time job.

Number of full-time employed workers (AWU) expresses a number of workers that are working full-time, i.e. share of total number of hours worked by all the workers divided by annual fund of working hours (1800 hours). Data came from previous table by multiplying the number of workers in each category by the respective coefficient of the category. Category under 450 hours worked: coefficient 0.125; 450 till 899: 0.375; 900 till 1 349: 0.625; 1 350 till 1 799: 0.875; 1 800 and more hours worked: 1.000.

Labour force of the holding of natural persons includes holder, husband/wife/spouse working on farm, holder's family members (without employment contract), who carry out farm work on the farm irrespective of whether they work regularly or not, regularly working employees. Holdings of legal persons supplied data for managers, regularly employed persons and working holders.

Table 4/2 Agricultural education of the manager

Only the highest educational attainment reached in the agricultural domain is included in this table.

Table 5 Persons irregularly employed in the period of October 2006 – September 2007

The table contains a number of "seasonal workers" and a number of hours they worked on agricultural holdings. Table includes persons with temporary contracts for work or contracts for services. Persons not directly employed by the holding (for example persons employed by job agencies) and self-employed persons contribute to seasonal labour force as well.

Table 6 Utilised agricultural area, ha

The table contains data on the area of utilised agricultural land and arable land expressed in hectares (data is rounded off to two decimal places). Pursuant to Cadastral Act No. 265/1992 Coll. as last amended, the ownership of a real estate is recorded by the entry of the ownership right in the land register or in a different, corroborative way (a purchase agreement or a deed of gift, including motion to enter the record of the title of a real estate in the land register, or acknowledgement of the acquisition of inheritance, or the Land Office's decision on restitution procedure according to Land Act No 229/1991 Coll.). Any area of land that the holding provides to/receives from another holder on the basis of a contract in writing or by word according to pre-set conditions is considered land rented to/from others.

Agricultural land is the sum of plots of land utilised for the agricultural production process and includes: arable land, hop yards, vineyards, gardens, plantations, permanent grassland and meadows and other permanent crops.

Arable land includes land plots utilised for growing agricultural crops in a crop rotation and also includes lands temporarily covered with grass or with multi-annual fodder crops, areas under glass/plastic foil and hotbeds. Fallow land set aside for regeneration for one year as a rule is also counted in. The fallow land can be free of any crops, can have natural vegetation, or can be sown only for the purpose of green manure. It is a part of a crop rotation system and, therefore, is considered to be a utilised agricultural land.

Unutilised agricultural land refers to areas which used to be utilised as an agricultural land but is not farmed any more for a long time for economic, social or other reasons (arable land is not more included in any crop rotation system).

Table 7 Destination of the holding's production

Consumption of the final production in the holder's household contains gifts to family and relatives without remuneration. Agricultural products used as input for other production, such as forage for animal production, are not included in the final output.

Direct sales to consumers means a sale to persons (final consumers) who consume bought products and do not resale them.

Table 8 Aid for investments during the last five years

In the period of 2004 – 2006 the financial aid in was provided within "Operating programme – Agriculture". In the period of 2007 – 2013 the financial aid is being provided within "Programme of Rural Development in the Czech Republic".

Investments in agricultural holding/modernisation of agricultural holdings include investments that improve total productivity of the agricultural holding in order to increase its competitiveness. Financial aid is targeted at activities such as production, processing or launching products into the market. E.g. investments in restoration and construction of new buildings for animal and crop production, investments in equipment and technologies for animal and crop production, building and technology investments in processing and utilization of intentionally planted or residual or waste biomass for energy and material purposes including necessary manipulation areas, investments in equipment for landscaping, investments linked with development and application of new agricultural products, procedures and techniques in crop or animal production.

Financial support for young farmers to set up a business refers to persons (natural or legal) who run agricultural production as a constant and independent activity on his/her own behalf, at own liability and for the purpose of profit, who are less than 40 years old and launch the agricultural activity for the first time. In case a young farmer starts an activity within the holding of a legal person he/she has to manage this holding and he/she has to share in basic capital by more than 50 % at the same time.

Financial support of rural development includes measures in the Axis III as following: non agricultural activity diversification, support of establishment and development of holdings, support of tourism, renewal and development of villages, public facilities and services, protection and development of village heritage, education and information, measures within Axis IV LEADER, i. e. local action group, local developing strategy realisation, realisation of cooperation projects.

Table 9 Areas under the payment scheme

Land blocks defined as less favoured areas (mountain, specific and other) can be found in areas that are disadvantaged by nature, such as mountain terrain or other handicaps. The list of municipalities and

cadastres classified as less favoured areas is published in Annex 1 to Government regulation No. 75/2007 Coll.

Areas with environmental restrictions were established as a result of the implementation of agricultural use of land limitations based on Community environmental protection rules. Mainly Natura 2000 areas represent these areas, i.e. special conservation/protection areas hosting threatened natural habitat types and species.

Areas no longer used for production purposes and subject to payment of subsidies include areas that were kept in good agricultural and environmental conditions as on 30 June 2003 and were entitled to the single area payment scheme (SAPS). They include both arable land and permanent grassland.

Areas used for the production of agricultural raw materials for non-food purposes. Pursuant to Government Regulation No.308/2004 Coll., on the Setting of Certain Conditions for subsidising the growing of energy crops, as last amended, only those areas of crops used for energy purposes (e.g. sorrel) shall be included where the holding has a contract with the processor of the production.

Areas converted into permanent pasture and meadow only include areas for which the holding has applied for a financial aid within sub-measure "Grassing over of the arable land" (agro-environmental measures).

Former agricultural areas converted into wooded area or being prepared for afforestation are areas for which the holding has applied for a financial aid within the sub-measure "First afforestation of the agricultural area". Areas of fast growing species produced for energy purposes for which the holding has applied for a financial aid within the sub-measure "Plantation of fast growing species for energy purposes" are included there as well.

Other areas include fruit tree-lined alleys entitled to the single area payment scheme (SAPS).

Table 10 Organic farming

Organic farming is a type of agricultural farming characterized by saving natural resources and by limits or bans imposed on the application of substances or methods that burden the environment. Breeding of animals is carried out in compliance with their ethological requirements, the application of veterinary medicaments is controlled and considerate processing procedures are used.

A farmer/holding applies organic farming if he/it abides by Organic Farming Act No. 242/2000 Coll., as last amended, and Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and labelling of agricultural products and foodstuffs referring thereto.

Table 11 Extent of organic farming

Farms in the conversion period to organic farming refer to farms in a transient period in which the reporting unit's agricultural farming is transformed into organic farming. It begins on the day the application is received by the Ministry of Agriculture of the Czech Republic and ends on the day the Ministry issues its decision on the registration of the applicant.

Permanent crops include orchards, kitchen gardens, vineyards, hop-gardens and other permanent crops.

Table 12 Land use in 2007

Data on areas under agricultural crops grown as a main crop in the reference year are reported in the table. These areas under crops include in particular crops on arable land, but they also include areas under crops in plantations and market gardens as well as in temporarily ploughed permanent grassland. Areas under successive secondary crops are reported separately.

Other pulses include fodder and other pulses, mixtures of pulses and cereals.

Potatoes, total include early, seed potatoes and industrial potatoes.

Fodder roots include fodder beet, turnip, marrow, Jerusalem artichoke, turnip cabbage, fodder carrot, beet root, fodder cabbage.

Other industrial crops include chicory root, rumex for energy use and other industrial plants not mentioned elsewhere (e.g. hemp, etc.)

Open field production refers to growing vegetables (strawberries) in the framework of the agricultural crop rotation system.

Market gardening production refers to growing vegetables (strawberries) in the framework of the garden crops rotation system. The areas used in a given year for growing vegetables shall only be reported once, irrespective of the number of harvests.

Kitchen gardens include plots of land where vegetables, flowers and other garden crops are permanently grown usually for self consumption as well as plots of land uninterruptedly planted with fruit trees or fruit bushes up to the acreage of 0,25 ha; as a rule, they make up one unit with residential and farm buildings.

Fallow land without subsidies refers to a land that is during the given vegetative period not used for production purposes in the frame of a crop rotation system. This arable land was not kept in good agricultural and environmental conditions as on 30 June 2003, i. e. it is not entitled to the single area payment scheme (SAPS).

Fallow land with subsidies refers to a land that is during the given vegetative period not used for production purposes in the frame of a crop rotation system. It covers arable land that was kept in good agricultural and environmental conditions as on 30 June 2003, i. e. it is eligible to be included in the single area payment scheme (SAPS). Fallow land with subsidies includes bare fallow land, fallow land with spontaneous natural vegetation that may be used as a feed or ploughed in and area sown exclusively for the production of green manure. Area of arable land categorized under heading "bio-zones" shall be included here as well.

Permanent grassland also includes the area of arable land being turned into permanent grassland.

Other permanent crops include open-air permanent crops, mainly raw material for plaiting and weaving baskets and furniture making, e.g. willow, sorghum, reed, bamboo, raffia etc.

Forestland total refers to areas covered with forest trees or bushes and to non-commercial nurseries on forestland (they cater for the interviewed holding only). The area of agricultural land afforested and the area of agricultural land with fast growing tree species is also included there.

Other areas include parks, yards, roads, and parking, handling and storing areas.

Successive secondary crops include crops sown after/before a main crop and harvested in the 12-month period observed. Where more successive crops are grown, the area shall be reported for each of the crops. Kitchen gardens, crops under cover or market gardening is excluded.

Water areas do not include ponds that are used for aquaculture.

Utilised agricultural area, total is the sum of arable land, hop yards, vineyards, gardens, plantations, permanent grassland and meadows and other permanent crops.

Table 13 Livestock, 30 September 2007

Tables 13/1 till 13/4 show the number of livestock that is on the day of survey in the direct possession or management of the holding. These animals are not necessarily the property of the holder.

Young bulls and heifers under 1 year include male (female) bovine animals, including calves.

Heifers for production and breeding aged between 1 and 2 years include female bovine animals which did not calved yet, including in-calf heifers.

Dairy cows are cows kept only or mainly for the production of milk for human consumption or for further processing to dairy products.

Suckler cows, cull and fattened cows are kept, due to their breed or particular properties, exclusively or mainly for the production of calves and whose milk is not intended for human consumption or further processing to dairy products. Other cull cows are included too.

Table 14 Manure fertilizers and storage facilities

A solid dung storage facility is only a consolidated dung heap/hole on an impervious surface, provided with a barrier that prevents liquid from outflowing. Neither the floor area of stables with deep bedding nor field dung heaps are counted in. A storage facility for liquid manure/slurry refers to a watertight tank, open or covered, or to a lined lagoon.

Storage capacities is expressed in terms of months over which the facility can accommodate the natural fertilizers produced in the holding, without any leaks or pollution to the surroundings, broken down by the type of a natural fertilizer of animal origin.

Table 15 Machinery and equipment: 30 September 2007

The table includes number of machines owned by reporting unit (including financial leasing), irrespective of their conditions and operability.

Wheel and track tractors (by engine power) include only two-axle tractors and small –size tractors.

Ploughs include conventional and reversible ploughs.

Reapers include only tractor-drawn reapers.

Combine harvesters, cutter harvesters include only self-propelled machines.

Fertilizers spreaders include mounted or drawn spreaders.

Manure spreaders include only drawn spreaders.

Sprayers include both self-propelled and drawn mounted sprayers.

Seeders include seeders and seed-drill combinations for large area crop seeding (precise seeders are excluded).

Stationary and mobile irrigation equipment refers to irrigation equipment used to grow field crops (not for market gardening or crops under glass).

Feeding wagons include both self-propelled and drawn wagons.

Table 16 Source of water and irrigation methods

The table comprises data on supplementary indicators of water sources and irrigation - water source for the holding, wastewater disposal, irrigable area, irrigated area, source of irrigation water and irrigation method employed. Wastewater disposal applies to wastewater from farm buildings and not from the holder's household.

Table 17 Irrigation in the period of October 2006 – September 2007

The table shows the total potentially irrigable area in the Czech Republic in hectares and actually irrigated areas (in hectares) broken down by crop.

Irrigable area is maximal area that can be possibly irrigated. *Irrigated area* is the area that was irrigated minimally one time in the reference period.

Table 18 Agricultural services, 2007

The table presents numbers of reporting units hiring or providing on the basis of a contract listed agricultural services.

Services in animal production include herd testing, castrating, sorting poultry by sex and associated activities, grazing animals, cleaning of stable areas, artificial insemination. Veterinary and consultancy services are excluded.

Table 19 Processing of own products, provision of services

The table includes data on quantities of agricultural products of own production (not final products made of them), processed in the reference period by agricultural primary producers in their own production capacities into products such as meat products, dairy products, peeled potatoes for major consumers, chips, marmalades, fruit juices, wine, feeding stuffs.

Providing services by the reporting unit to external customers is measured by financial benefits from services (sales).

Table 20 Self-consumption of self-produced products consumed in the household

It includes self-produced products consumed in the reference period as foodstuffs in the household or in the canteen in the agricultural holding and self-produced products given to employees as a wage in kind. Products used as feedstuff are excluded.

Table 21 Non-agricultural activities for rural development

Numbers of agricultural subjects engaged in different non-agricultural activities are in the table. One subject can carry out several activities. Non-agricultural activities for rural development include all gainful activities that do not comprise any farm work and have an economic benefit for the reporting unit. Activities carried out for the needs of the farm only are not counted in.

Production of electricity from renewable sources is entered if the electricity is produced for market in technical units (kJ). Electricity produced for own consumption or sale of energy producing materials (wood, straw) for the production of electricity is excluded.

Aquaculture means production of fish, crayfish etc. in the holding.

Contractual work usually means using the equipment of the holding inside or outside the agricultural sector, e.g. clearing snow, haulage work, maintenance of the landscape (mowing road ditches), agricultural and environmental services, etc.

3 Sampling and grossing-up

Sampling of farms was carried out at two levels – (i) exhaustingly and (ii) as a combination of sample survey and exhaustive survey.

Sampling

- (i) Holdings of legal persons and natural persons with SGM > 600 000 CZK (farms in economic size classes 7, 8, 9, 10 and farms partially included in class 6) registered in the Farm Register were surveyed exhaustingly. 3 013 holdings of legal persons and 4 903 holdings of natural persons exceeded this SGM limit.
- (ii) Natural persons with SGM < 600 000 CZK or with unknown SGM were sampled. Sampling was carried out in two steps: The first step included generating population that consisted of 6 382 basic territorial units (ZUJ). ZUJ is identical with municipality with the exception of chartered towns where ZUJ comprised city district. Each of ZUJ was assigned its weight determined by the number of natural persons farming in given ZUJ whose SGM did not reach 600 000 CZK. Other parameters of each ZUJ were a NUTS3 region the ZUJ belongs to and agricultural production area that expressed a combination of altitude and natural conditions. ZUJ units with identical agricultural production area and NUTS3 formed individual strata. The whole weight of the stratum (i.e. number of natural persons with SGM < 600 000 CZK) was derived from the sum of weights for individual ZUJs. The number of farms in ZUJ ranged from 0 to 424, the average being 6,4 farms per ZUJ. Sampling was aimed at ZUJs and in the selected ZUJs all natural persons, which met FSS thresholds, were surveyed exhaustingly.

The municipalities were sampled by a generator of random numbers in the Visual FoxPro software. The sampling of ZUJ in a stratum was terminated in the following step when 70% of the total stratum weight was exceeded. In this way 4 514 ZUJ were chosen out of 6 382 ZUJ.

There were 43 051 natural persons in the Farm Register at the moment of generation. 30 571 holdings of natural person were selected.

The total number of surveyed reporting units registered as active units in the Farm Register was 38 487. Moreover, other natural persons were addressed in selected ZUJ detected in other sources (e.g. Business Register – newly emerged units with agricultural NACE, LPIS²) as potential farmers. 11 223 reporting units were selected from other sources. Thus, the whole sample contained 49 710 reporting units.

A total of 30 134 of completed questionnaires were returned by active farms which exceeded the threshold values in 2007.

Stratification

Reporting units were assigned to strata that combined three respective four variables:

- legal form of reporting units and their economic size,
- belonging to agricultural production areas,
- belonging to region according to farm headquarters or permanent residence of natural persons.

A code of stratum consists of six-digit chain 0X0YZZ, where:

a) X acquires value from 2 to 4 and distinguishes legal form of reporting unit and its economic size:

- 2 – active natural persons from Farm Register (FR) with SGM < 600 000 CZK including newly emerged natural persons
- 3 – active natural persons from FR with SGM > 600 000 CZK
- 4 – active legal persons from FR and newly emerged

b) Y acquires value from 1 to 5 according to the belonging of the reporting units to one of the five agricultural production areas:

- 1 – Maize,
- 2 – Sugar beet,
- 3 – Potato,
- 4 – Potato-oats,
- 5 – Mountainous.

² LPIS (Land Parcel Identification System), i.e. SW system for recording and updating the register of land parcels (land register) pursuant to Act on agriculture and containing other functions necessary in particular for subsidy administration.

c) ZZ is an abbreviated code of NUTS3 and has value 11, 21 31, 32, 41 42, 51, 52, 53, 61, 62, 71, 72 and 81.

From the above-mentioned information it is evident that strata 03* and 04* were surveyed exhaustingly and strata 02* were sampled. There were 70 strata in theory of which only 52 were loaded. Maize agricultural production area exists only in two regions and on the other hand mountainous agricultural production area is missing in two regions.

The recount coefficient of each stratum K_p :

$$K_p = \frac{N_z}{N_v}$$

K_p recount coefficient
 N_z number of units in population generated from Farm Register for individual stratum
 N_v number of units in sample in individual stratum

Natural persons with SGM > 600 000 CZK and also legal persons have extrapolation factor equal to 1 (they were surveyed exhaustingly).

In the process of calculating relative standard errors some units turned out to be extreme; they were put into a special stratum and their extrapolation factor was lowered to 1. These units were entities reaching at least one of the following extreme values: utilised agricultural area - 300 hectares and more, arable area - 150 hectares and more, cereals – 100 hectares and more, poultry - 20 000 heads and more, pigs – 300 heads and more, cattle - 200 heads and more, sheep - 300 heads and more, goats - 250 heads and more.