

2 Methodological notes

Reference period for the Integrated Farm Survey 2023 for variables of state nature were related to 30 September 2023. Variables concerning use of labour force in agriculture were measured for the period October 2022 – September 2023 due to ALI (Agricultural Labour Input) methodology.

Table 1 Agricultural holdings by legal forms

An agricultural holding applies organic farming if it abides by Organic Farming Act No 242/2000 Coll., as amended, and Council Regulation (ES) No 834/2007 of 28 June 2007 on organic production and labelling of organic products.

Table 2 Other gainful activities of the holding

Two types of other gainful activities are distinguished: ones directly related to the holding and not directly related to the holding. According to their share in the annual volume of working hours, they can be carried out as main or secondary activities.

Activities directly related to the holding are such activities for which either resources of the holding (area, buildings, machinery, etc.) or its products are used in the activity. If only the farm labour force (family and non-family) and no other resources of the holding are used, these activities are not seen as being directly related to the holding (the workers are seen as working under two separate arrangements).

Non-agricultural as well as agricultural work for other holdings is included.

Activities directly related to the holding do not include commercial activities not linked to any agricultural holding activity and localised on the holding are not another gainful activity of the holding (for example an insurance company, renting agricultural machinery that is not used on the holding, a shop where no own products are sold etc.); these activities are included in activities not directly related to the holding.

The information collected shall reflect “standard” situation of the holding, therefore any occasional other gainful activities are excluded.

Provision of health, social or educational services: any activity, which is linked to the provision of health, social or educational services and/or socially related business activities, in which either the holding’s resources or its primary products are used.

Tourism, accommodation and other leisure activities: all activities in tourism, accommodation services, showing the holding to tourists or other groups, sport and recreation activities etc. where land, buildings or other resources of the holding are used.

Handicraft: items manufactured on the holding either by the holder, or by the family members, or by non-family labour force, provided that they are also carrying out farm work, regardless of how the products are sold.

Processing of farm products: all processing of a primary agricultural product to a processed secondary product in the holding, regardless whether the raw material is produced in the holding or bought from outside. This includes e.g. processing meat, making cheese, etc. Processing of farm products for self-consumption only or the sale of a possible surplus of such products is not included.

Renewable energy production: producing renewable energy for the market including biogas, bio-fuels or electricity, by wind turbines, other equipment or from agricultural raw materials. Renewable energy produced

only for the holding's own use is excluded. Renting out the land only for the establishment of wind mills or selling of raw material to another enterprise for the production of renewable energy is excluded.

Wood processing: processing of raw wood in the holding for the market (timber sawing). Further processing, such as producing furniture from the timber, belongs under handicraft.

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

Contractual work inside or outside the agricultural sector: contractual work using the equipment, differentiating between work that is inside or outside the agricultural sector, e.g. clearing snow, haulage work, landscape maintenance, agricultural and environmental services etc.

Forestry: forestry work using both the farm labour force and the machinery and equipment of the holding generally used for agricultural purposes.

Activities not directly related to the holding include activities performed by persons involved in agricultural work where no other resources of the holding (area, buildings, machinery etc.) are used.

Table 4 Labour force in agriculture, total

Regularly employed persons have carried out farm work every week on the holding in the period of 1 October 2022 – 30 September 2023, irrespective of the length of a working week. Persons who worked regularly for a part of that period but were unable to work for the entire period for any of the following reasons are also included:

- Special production conditions in the holding (e.g. holdings specialising in growing vegetables, grapes etc. and only requiring labour for a limited number of months);
- Absence by reason of holidays, sickness, accident or death;
- Commencement or cessation of employment in the holding (workers who stop for one farm to start working for another one during the survey period are also included here);
- Complete stoppage of work in the holding due to accidental causes (flooding, fire, etc.).

Holder's family members are the spouse, relatives in the ascending or descending line (including by marriage and by adoption) and brothers and sisters of the holder or his/her spouse. If they have carried out agricultural work but they have not lived in the same household with the holder, they are included in the section.

Working owners include partners in general commercial partnerships, general partners in limited partnerships, partners in limited liability companies and limited partners in limited partnerships, who work in their partnership but are not employed there.

Irregularly employed persons are those who did not carry out farm work regularly every week on the holding in the period of 1 October 2022 – 30 September 2023 for other reasons than listed above. Temporary workers at work peaks or those working in the holding in form of additional activity to their major occupation in another holding are included here. Persons with temporary contracts for work or contracts for services are mainly included in this section.

Persons not directly employed by the holding are either self-employed or employed by third parties, e.g. contractors (job agencies).

Annual work unit (AWU) is the full-time equivalent employment, i.e. the total hours worked divided by the average annual hours worked in full-time jobs. The annual fund of working hours is set at 1,800 hours and is based on number of eight-hour working days per year minus minimum statutory claim for holiday and minus average number of hours not worked for incapacity for work. Category under 450 hours worked: coefficient

0.125; 450 till 899 hours: coefficient 0.375; 900 till 1,349 hours: coefficient 0.625; 1,350 till 1 799 hours: coefficient 0.875; 1 800 and more hours: coefficient 1.000.

Table 7 Manager of the agricultural holding

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

Practical agricultural experience only = experience acquired only through practical work on an agricultural holding (e.g. manager of the holding has juridical, economic etc. education).

Basic agricultural training = completed agricultural apprenticeship in agriculture (including horticulture, viticulture, pisciculture, veterinary science, agricultural technology and associated subjects).

Full agricultural training = secondary education completed with school-leaving examination or graduation at agricultural college, university or other institute of higher education in agriculture (including horticulture, viticulture, pisciculture, veterinary science, agricultural technology and associated subjects).

Vocational training is a training measure or activity, provided by a trainer or a training institution, which has as its primary objective the acquisition of new competencies related to the farm activities or activities related directly to the holding or the development and improvement of existing ones. The table includes vocational training undertaken by manager during the last 12 months.

Table 8 Arable land use

Data on areas under agricultural crops grown as a main crop in the reference year are reported in the table. Areas of crops for the production of renewable energy are included in particular crop types.

Other pulses include pulses not mentioned elsewhere and mixtures of pulses and cereals for the production of grain, regardless of their use. Includes e.g. field beans, chick peas, lentils, common vetch, and Hungarian vetch.

Potatoes, total include early, ware, seed, and starch potatoes.

Fodder roots include rutabaga, Jerusalem artichoke, and other fodder roots (fodder beet, fodder carrot, fodder kale etc.).

Energy crops not mentioned elsewhere include crops grown exclusively for biomass for energy production, e.g. miscanthus, cup plant, giant reed, rescue grass, upright brome, Virginia fanpetals, tall wheatgrass, switchgrass, sorrels (excluding fodder sorrels). Crops not grown solely for renewable energy production (e.g. rape seed or maize) are excluded; such crops are to be reported under particular items.

Other industrial crops include fibre flax, chicory root, stevia etc.

Table 9 Utilised agricultural area

Agricultural land, total consists of arable land, hop-gardens, vineyards, orchards, nurseries, permanent grassland, and other permanent crops.

Vineyards, total include both fertile and newly established (not yet yielding) vineyards. They are broken down by type of production into vineyards with grape varieties for the production of wines with a protected designation of origin (PDO) and with a protected geographical indication (PGI). Requirements for inclusion of vineyards to particular PDO and PGI categories are set in Council Regulation (EC) No 491/2009, as amended, and relevant national legislation.

Rough grazings are areas of permanent grassland, usually on low quality soil, at high altitudes, low yielding; they cannot support a large density of animals. Stony ground, heath or moorland can be included. Areas of rough grazing mown instead of being grazed by animals because of their high natural value are included.

Meadow orchards are areas evenly planted with fruit trees of half stem or tall trunk standard with a minimum density of 50 viable individuals per hectare with herbaceous cover in between. Their primary purpose is not fruit production but the preservation of varietal diversity, cultural heritage, and rural landscape character.

Table 10 Area of land, total

Unutilised agricultural area means area previously used as an agricultural area and not farmed for a long time for economic, social or other reasons, not used in the crop rotation system anymore. No support schemes requiring maintaining the land area in good agricultural and environmental conditions are applied.

Kitchen gardens include utilised agricultural area where fruits, vegetables, flowers, and aromatic, medicinal and culinary plants are permanently grown usually for self-consumption. They can comprise both arable land and permanent crops area and they usually make up one unit with residential and farm buildings. Gardens for recreational purposes are excluded.

Short rotation coppices grown outside woodland include, for example: poplars and their hybrids, willows and their hybrids, European ash, European alder, grey alder.

Forest land: area covered with trees or forest shrubs, including non-commercial forest-tree nurseries grown in woodland (use for the holding's own needs). Wooded agricultural area is included as well.

Other areas: area occupied with buildings, farmyards, paths and lanes, purpose communications, parking, manipulation or storage areas, as well as parks and tree alleys. It includes also area with ponds, watercourses, reservoirs, etc., belonging to an agricultural holding.

Mushrooms cultivation areas include halls, cellars or other objects. Areas for growing truffles and areas of harvested wild mushrooms are excluded.

Table 11 Agricultural land tenure

The table contains data on the acreage of utilised agricultural area expressed in hectares (data is rounded off to two decimal places). Pursuant to Cadastral Act No 265/1992 Coll., as 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-gardens, vineyards, orchards, nurseries, permanent grassland, and other permanent crops. Kitchen gardens and areas of short rotation coppices are excluded.

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 and is no more included in any crop rotation system.

Table 12 Irrigation and drainage on agricultural land

The irrigable area is the total maximum range of utilised agricultural area that could have been irrigated in the reference year with the equipment and amount of water normally available on the holding.

The irrigated area is the area used for growing crops that has actually been irrigated at least once during the reference period.

The drained area is the utilised agricultural area which is subject to drainage, the artificial removal of excess surface water or ground-water to prevent inundation, by means of surface or sub-surface conduits. Natural drainage of excess water into lakes, swamps and rivers is excluded.

Table 13 Areas under cover

Area of crops planted in glasshouses or plastic houses or under high accessible protective cover for the whole of their period of growth or for the predominant part of it.

Greenhouses are intended for growing crops during the whole year. They are usually made of glass or rigid or flexible plastic.

Constructions with accessible high cover protect plants against direct sunshine, rain, wind, or hail, and prevent fast evaporation from the soil. They include plastic houses equipped with special protective nets or plastic films placed above permanent crops (orchards, vineyards).

Area under low, inaccessible cover, movable glass-covered frames, etc. is excluded.

Table 14 Tillage methods on arable land

Conventional tillage means inversion of the soil, with burying of crop residues.

Conservation (low) tillage is a tillage practice or system of practices where no inversion of soil occurs. A part of plant residues is usually not buried. Ridge tillage, vertical tillage, and strip tillage is also included.

Zero tillage (direct seeding) means that no tillage is applied between harvest and sowing on the arable land.

Table 15 Soil cover on arable land

The way the arable land is covered with plants or residues or is left bare in the winter. Various farming practices can be used in order to reduce soil degradation; the risk of soil erosion and nutrients loss is kept to be minimised.

Cover crops or intermediate crops are sown after the harvest of main crop (during periods when the land would otherwise be bare) specifically to manage erosion, fertility, soil quality, water, weeds, pests, diseases, biodiversity and wildlife.

Plant residues and stubble of the previous crop season remain on the soil surface during winter

Mulch is loose covering with material, which is either natural such as litter, cut grass, straw, foliage, pruning residues, bark or sawdust; or artificial such as paper or synthetic fibres.

Bare soil means arable land that was ploughed or otherwise tilled after the harvest and is not sown or covered during winter with any plant residues, remaining bare until the pre-seeding or seeding operations

Table 16 Crop rotation on arable land

Crop rotation is the practice of alternating crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species are not grown without interruption on the same field.

Table 17 Production orchards by age

The table shows the area of apple and apricot orchards in ha to 2 decimal places. The breakdown is based on the age structure of the orchards.

Table 18 Production orchards by plantation density

The table shows the area of apple and apricot orchards in ha to 2 decimal places. The breakdown is based on the density of tree planting in pieces per hectare.

Table 19 Livestock

Number of production animals that are in the direct possession or management of the holding on the day of the survey (these animals are not necessarily the property of the holder). In case the animals are out of stock on the reference day, the usual number is recorded. Animals that are not used for production or other gainful activity, i.e. used for hobby activities only, are not included.

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

Other poultry include guinea fowl, quails, pheasants, and pigeons kept for meat production. Listed species of poultry kept in confinement for hunting purposes are excluded.

Table 20 Machinery owned by the holding

The table shows information on machinery, which is the sole property of the enterprise on the reference date of the survey and has been used by the enterprise during the reference period. Machinery rented on a short-term basis (hourly or daily rental), machines owned by other enterprises or machines belonging to contractors providing services are excluded. Machinery not used during the reference period is not included.

Tillage machinery means mouldboard ploughs, tillers, rototillers, chisels, harrows, strip tillers, cultipackers etc.

Seeders and planters include spray sowers, seed drills, planters etc.

Spreaders, pulverisators or sprayers for fertilisers include solid mineral fertiliser spreaders, solid manure spreaders and broadcasters, slurry spreaders (trailing hoses and trailing shoes), manure injectors (shallow/open-slit and deep/closed-slit), low-pressure and high-pressure sprayers etc.

Other fully mechanised harvesters mean fully mechanised harvesters of potatoes, carrots, sugar beets, vegetables, and grapes, fruit picking platforms, forage or silage harvester, balers etc.

Table 21 Hired machinery

Machinery used by the agricultural holding during the 12 months preceding the reference day of the survey but being the property of another agricultural holding (e.g. used under mutual aid arrangements or hired from a machinery hire syndicate), a cooperative association of two or more agricultural holdings jointly, a machinery group or an agricultural service supply agency.

Cultivators, ploughs, seeders, pulverisators, sprayers, equipment for application of plant protection products or fertilisers include mouldboard ploughs, tillers, rototillers, chisels, harrows, strip tillers, cultipackers, spray sowers, seed drills, planters, solid mineral fertiliser spreaders, solid manure spreaders and broadcasters, slurry spreaders (trailing hoses and trailing shoes), manure injectors (shallow/open-slit and

deep/closed-slit), low-pressure and high-pressure sprayers etc. Aeroplanes and drones for application of plant protection products or fertilisers are excluded.

Other fully mechanised harvesters include machines for harvesting of potatoes, carrots, sugar beets, vegetables, and grapes, fruit picking platforms, forage or silage harvester, balers etc.

Table 23 Smart technologies in agriculture

The table shows information on machinery and equipment used by the agricultural holding during the reference period, whether owned or hired by the holding during that period.

Robotics include self-driving machinery, berry-picking robots, very high precision equipment based on RTK-GPS (1 cm accuracy) etc.

Robotics for plant protection products means equipment using GPS guidance for the application of PPP.

Variable rate techniques mean techniques allowing variable change in fertilisation, plant protection, weeding, sowing, planting etc.

Equipment for precision monitoring of crops includes weather stations, digital mapping (soil quality mapping, yield mapping, NDVI mapping), soil scanning, yield monitoring sensors etc.

Equipment for welfare and health monitoring of animals includes camera monitoring of animals, sound monitoring, alert systems, activity sensors, animal tracking, health monitoring (e.g. temperature, weight, lameness or mastitis monitoring), feeding registration, drinking registration etc.

Table 24 Storage of agricultural products

The table shows the storage capacities for agricultural products. Outdoor storage is not included.

Ventilated storage facilities and those with controlled atmosphere for root crops include those for storage of roots, tubers and bulbs of root crops

Refrigerated storage facilities mean refrigerated space regardless whether for vegetables, fruits, flowers, meat and meat products, milk and milk products or eggs.

Table 25 Equipment used for renewable energy production

The table includes only holdings engaged in the renewable energy production by an own substantial investment.

Wind means exploitation of kinetic energy of wind for electricity generation in wind turbines.

Biomass is solid, liquid or gaseous organic non-fossil material of biological origin used for the production of heat, electricity or fuel. Solid biomass includes e.g. wood, charcoal, wood pellets, wood waste, plant materials such as straw, plant husks and shells, animal waste and organic household waste used directly as fuel (not for anaerobic digestion). Wood and other plant material may come from purpose-grown energy crops and short rotation coppices. Liquid biomass means biomethanol, bioethanol, biodiesel and other liquid biofuels.

Biogas is a gas composed mainly of methane and carbon dioxide, produced from biomass by anaerobic fermentation or thermal processes. Biogas can be produced from animal slurry or waste from slaughterhouses, breweries and other agricultural and food processing operations. It can also be produced by the decomposition of landfill waste or by anaerobic fermentation of sewage sludge.

Solar thermal energy means the use of solar radiation to heat water in solar thermal power plants or other water heating devices (flat plate, tube or concentrating collectors).

Solar radiation for electricity generation means the use of solar radiation to generate electricity using solar cells/panels.

Water includes the use of the potential and kinetic energy of water to generate electricity in hydroelectric plants.

Other types of renewable energy include e.g. the use of geothermal energy or heat energy generation by heat pumps. Waste incineration without heat recovery is excluded.

Table 27 Farm safety plan

The safety documentation defines measures and procedures concerning occupational safety and health at work in order to minimize risks arising from the performance of work in the agricultural holding.

The safety documentation usually includes information on methods and periodicity of training of employees regarding their responsibilities related to safe use of machinery and fertilizer handling in crop production, safety measures for livestock feeding, care and handling, evaluation of safety measures in the company, plans to update safety documents for particular types of production, etc.