

3 STRUCTURE OF AGRICULTURAL HOLDINGS BROKEN DOWN BY ECONOMIC SIZE CLASSES AND BY TYPE OF FARMING

Table 3 presents classification of agricultural holdings in the Czech Republic into particular economic size classes. For the purposes of this study, the classes were merged into three basic groups of economic size. The analysis covers small holdings (economic size class I–V), medium holdings (economic size class VI–IX) and large holdings (economic size class X–XIV).

Within the Czech Republic, the largest proportion of the holdings is formed by small holdings (61%), followed by medium holdings (32%); the large holdings represent only 7% of the total number. Within particular economic classes, the highest number of holdings belongs to the economic size class III (4 109 holdings) followed by class IV (3 504 holdings) and class VI (2 804 holdings). The smallest proportion - only 1% - includes size class XIV, which covers 248 largest holdings. Nevertheless, the core part of the Czech agricultural production is concentrated in the group of large holdings (economic size class X–XIV) utilising almost 65% of the agricultural land resources and sharing more than 80% of animal production (in livestock units). The opposite is represented by small agricultural holdings, which involve the largest number of the holdings but utilise less than 6% of the agricultural area and rear only 4% of the livestock.

The size structure of the holdings differs between legal forms. The majority of holdings of natural persons (68%) belong to small economic size classes (I–V). On the contrary, the share of large HNP is very low (1%). Legal persons show an opposite situation: almost one half (48%) of them belongs among large holdings (class X–XIV). Approximately 37% of HLP fall into the medium size classes (VI–IX) and small HLP represent 15% of the total number of HLP. However, it must be taken into account that in many cases small HLP include holdings which reach threshold values for Agrocensus 2010 but do not have agricultural production as their principal orientation.

Table 3 - Structure of the holdings broken down by their economic size

Economic size class	Agricultural holdings, total		of which			
			holdings of natural persons		holdings of legal persons	
	abs.	%	abs.	%	abs.	%
Total*	22 739	100.0	19 672	100.0	3 067	100.0
Small (I - V)	13 806	60.7	13 356	67.9	450	14.7
I	1 345	5.9	1 300	6.6	45	1.5
II	2 456	10.8	2 388	12.1	68	2.2
III	4 109	18.1	4 002	20.3	107	3.5
IV	3 504	15.4	3 398	17.3	106	3.5
V	2 392	10.5	2 268	11.5	124	4.0
Medium (VI - IX)	7 262	31.9	6 121	31.1	1 141	37.2
VI	2 804	12.3	2 649	13.5	155	5.1
VII	2 028	8.9	1 819	9.2	209	6.8
VIII	1 673	7.4	1 291	6.6	382	12.5
IX	757	3.3	362	1.8	395	12.9
Large (X - XIV)	1 671	7.3	195	1.0	1 476	48.1
X	382	1.7	107	0.5	275	9.0
XI	267	1.2	46	0.2	221	7.2
XII	348	1.5	27	0.1	321	10.5
XIII	426	1.9	13	0.1	413	13.5
XIV	248	1.1	2	0.0	246	8.0

* Not including holdings whose type of farming and economic size could not have been determined

Evaluation of regional distribution of agricultural holdings showed that the size structure did not significantly differ among regions (with the only exception of Prague). The shares of economic size classes in regions corresponded with the shares in the whole country. The largest share of small holdings occurred in Zlínský kraj (78%) and Liberecký kraj (73%). Medium size holdings formed the largest proportion in Středočeský kraj (41%) and Ústecký kraj (39%). Most of large holdings were situated in Olomoucký kraj (10%), Pardubický kraj (9%), and kraj Vysočina (9%). In absolute numbers, most of small holdings (in total 2 263) were concentrated in Jihomoravský kraj; they represented more than 16% of all small agricultural holdings in the Czech Republic. Most of large and medium size holdings occurred in Středočeský kraj, where

1 229 medium holdings and 256 large holdings were registered. These holdings shared 17% and 15%, respectively, of the total number of large and medium size holdings.

The structure of agricultural land possession (Table 4) in general types of farming and economic size classes proves the assumption that traditional Mixed crops – livestock holdings can be considered as the prevailing type of farming with a high concentration of land possession. The second largest group covers Specialist field crops with more than 50% percentage of the large size classes (X–XIV) and the third largest one includes Specialist grazing livestock. Abovementioned groups utilise in together about 98% of the agricultural area of the Czech Republic¹.

Table 4 - Shares of UAA belonging to particular economic size classes broken down by type of farming (%)

Type of farming	Economic size classes			Share of type of farming on UAA acreage
	Class I–V	Class VI–IX	Class X–XIV	
Mixed crops – livestock	2.2	11.3	86.5	44.8
Specialist field crops	5.4	41.6	53.0	31.1
Specialist grazing livestock	13.0	50.5	36.5	22.2

Regional evaluation of abovementioned relationships brings important findings as well.

As for UAA acreage, **Specialist field crops** are concentrated in Středočeský kraj, Jihomoravský kraj, Ústecký kraj, Olomoucký kraj, Jihočeský kraj and Plzeňský kraj; these regions represent about 70% of total acreage of the Specialist field crops in the whole country.

The results clearly illustrate that **Specialist field crops** is an universal type of farming widespread in most of the regions of the Czech Republic while the type **Specialist grazing livestock** and especially rearing of suckler cows is connected with less favourable areas, especially mountain LFA with significant proportion of permanent grasslands (see Fig 6 in Annexes). Entrepreneurs especially from the border areas of the Czech Republic belong to the most important breeders of ruminants. Holdings in Jihočeský kraj, Plzeňský kraj, Moravskoslezský kraj, kraj Vysočina, Karlovarský kraj, Liberecký kraj and Královéhradecký kraj utilise about 70% of total acreage owned by Specialist grazing livestock.

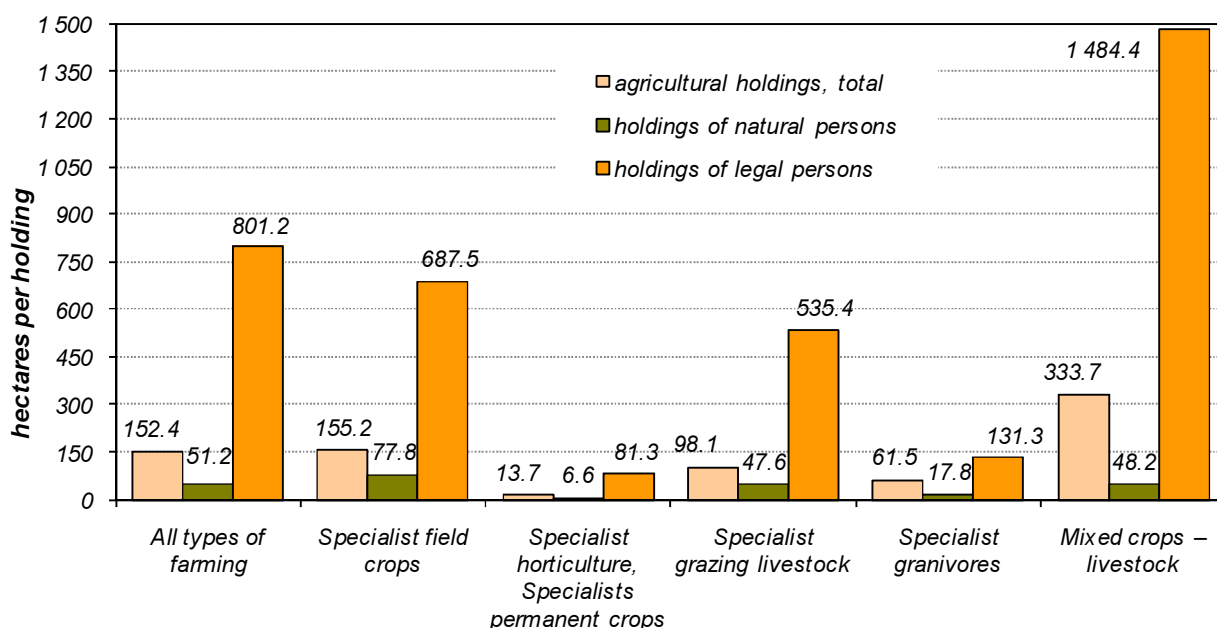
This farming type is less frequent in Jihomoravský kraj (9 thous. ha), Středočeský kraj (36 thous. ha), Olomoucký kraj and Pardubický kraj (both 46 thous. ha) because of specific soil-climatic conditions. The role of abovementioned type of farming has been increasing in all the economic size classes after accession of the Czech Republic to the EU. This specialisation plays important role among small holdings (class I–V) with the share of ca 13% of the total UAA connected with this type of farming.

Mixed crops – livestock is the prevailing type of farming with its share of more than 40% of the UAA. Prevalence of this type is a relic of the typical way of agricultural production before 1989; at that time, multi-sector structure had been preferred by cooperatives and state-owned holdings. During the transformation period, the holdings developed the current structure corresponding with a definition of Mixed crops – livestock farming type.

According to the definition of economic size of agricultural holdings, there is a distinct difference in average acreage of the responding units (both legal and natural persons) between size classes VI–IX and X–XIV. The same fact was observed also for different farming types (see Annex B4). Average UAA acreages in particular farming types are shown in Graph 1.

¹ According to the Agrocensus 2010 results, the type of farming 5. Specialist granivores covers 27.6 thousand ha in total, i.e. 0.8% of the total UAA of the Czech Republic. Almost half of the holdings of this type utilise no agricultural land.

Graph 1- Average UAA acreage in particular types of farming



Apparently, holdings of legal persons reach higher average acreages in comparison with natural persons; it concerns especially Mixed crops – livestock type having an average acreage of approximately 1 750 ha in economic size classes X–XIV. The highest average acreages - 1 900 ha to 2 200 ha UAA/holding – are recorded in Plzeňský kraj, Středočeský kraj and Jihomoravský kraj. On the opposite, Ústecký kraj and kraj Vysočina reached the lowest values of about 1 500 ha UAA/holding.

Holdings of legal persons specialised in field crops reach the highest average acreage in Karlovarský kraj, Olomoucký kraj, Zlínský kraj and Jihočeský kraj.

In comparison with Specialist field crops, slightly lower average acreage was recorded for HLP specialised in grazing livestock; among them Karlovarský kraj, Olomoucký kraj and Moravskoslezský kraj reached the highest values.

The average acreage of holdings of natural persons in the economic size classes X–XIV is distinctly lower compared with legal persons. Large holdings of natural persons include prevalently **Specialist field crops**; holdings dealing with other types of farming are only exceptionally classified as large holdings (see Annex E2). This fact can be explained by the finding that only very few HNP (ca 1%) are included in the highest size classes. The largest holdings among Specialist field crops are concentrated in Jihočeský kraj, Ústecký kraj a Pardubický kraj, with their average acreage from 1 000 to 1 400 ha.

The average UAA acreages of HLP within the medium size classes (V–IX) are several times higher compared with HNP. Mixed crops – livestock reach the highest (but very varying) average UAA acreages. The largest holdings are situated in Karlovarský kraj (738 ha UAA), Ústecký kraj and Moravskoslezský kraj (both around 600 ha UAA). Medium size HLP specialised in grazing livestock have their average acreages of about 400 ha and the largest holdings are concentrated to abovementioned regions.

Generally, the size characteristics of the holdings do not correspond with the soil-climatic conditions in the regions. Large acreages of holdings are not typical for traditional agricultural regions with the largest UAA acreages, i.e. Středočeský kraj, Jihočeský kraj, Jihomoravský kraj, Plzeňský kraj and kraj Vysočina, which share 57% of total UAA of the Czech Republic.

Livestock breeding intensities are expressed in livestock units (LSU) according to the EU methodology. Numbers of heads in particular categories were recalculated using coefficients listed in Table 5.

Table 5 - Livestock unit coefficients

Livestock category	LSU coefficient
Bovine animals under 1 year	0.4
Bovine animals 1 year but less than 2 years old	0.7
Bulls 2 years old and over	1.0
Heifers 2 years old and over	0.8
Dairy cows	1.0
Other cows 2 years old and over	0.8
Sheep and goats	0.1
Equidae	0.8
Piglets having a live weight of under 20 kg	0.027
Breeding sows weighing 50 kg and over	0.5
Other pigs	0.3
Broilers	0.007
Laying hens	0.014
Other poultry	0.03
Rabbits, breeding females	0.02

The results of Farm Structure Survey show that the animal production core as concerns total number of livestock units is concentrated mainly in Mixed crops – livestock holdings. This type of farming includes 866 thousands LSU, i.e. 47% of the total LSU sum in the Czech Republic. The majority (90%) of the livestock units within Mixed crops – livestock type is concentrated in specialised holdings of legal persons, with an average of 841 LSU per holding.

Specialist granivores share 28% of the livestock units in the country and therefore represent the second most important sector for concentrations of livestock units. Legal persons – Specialist granivores rear 93% of the total sum of LSU within this type of farming. Average number of livestock units is 2 773 LSU per holding in HLP but only 123 LSU per holding in HNP.

Agricultural holdings belonging to Specialist grazing livestock reach relatively low share of the total number of the livestock units (22%) despite their largest number. It is caused mainly by prevailing extensive way of rearing. Number of heads is similar for holdings of natural persons (42%) and legal persons (58%). Livestock breeding intensity is more than ten times higher in HLP (on average 285 LSU per holding) than in HNP (only 24 LSU per holding).

Other types of farming contribute only with a minor part to the animal production. Specialist field crops share 4% of the total number of livestock units, while Specialist horticulture and Specialist permanent crops only 0.1% of their total number.

Graph 2: Average number of livestock units in particular types of farming