REGIONAL ANALYSIS OF AGRICULTURAL PRODUCTION IN 2020

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Abstract

In 2020, the general agricultural census, the 2020 round, was carried out, which took into account the evolution of the situation in agriculture in both fields, vegetable and animal.

The purpose of this article is to highlight the developments that have taken place since the last agricultural census, ie 10 years ago, and the situation that has been reached at the moment.

Emphasis will be placed on the situation of agricultural holdings and their average area, highlighting the changes that have taken place and the results obtained.

The number of agricultural holdings with a utilized agricultural area of less than 1 hectare is shown, followed by agricultural areas owned by those who use them and which are of large proportions.

From the study of these data it is clear that the agricultural and agricultural areas, respectively, were reduced in number because they were either merged, or were alienated or leased. From this point of view, it is a positive fact. On the other hand, holdings with very large areas are decreasing or increasing depending on the groups of areas of the holdings in question.

In this article we have inventoried, one by one, these aspects as well as agricultural production and all the other elements that characterize agricultural production within a year.

Keywords: agriculture, growth, crises, variables, patterns, developments.

JEL classification: Q10, Q20

Introduction

The analysis carried out in connection with the results of the agricultural census, round 2020, started from the analysis of agricultural holdings, an essential element that can ensure the increase of agricultural and vegetable production in the first place.

Of course, the farms depend on the situation of the Romanian farmer. Most Romanian farmers were re-owned by law no. 18 of the Land Fund, in 1990 and in the years immediately following but, unfortunately, the transfer to the new farmers of the agricultural mechanization companies was not successful, a framework of agricultural subsidization was not achieved in that first phase in which the new owners did not have the necessary funds, which is why we moved to a rather rudimentary agro-technique. Under these conditions, we have seen years of declining agricultural production as a result of only a partial fertilization of a small proportion of agricultural land, as well as irrigation, the application of chemicals that are equally insufficient for the needs of farmers.

In our country, the property rights of the rural population were extraordinary and, therefore, it was probably wrong to speed up the process of decentralization of agricultural holdings, a situation in which many years many areas were unworked or insufficiently worked to be able to give a harvest that provides the necessary agri-food products for the food of the domestic population and there is also a surplus for export.

In the article, we analyzed, one by one, the existing situations starting from the general state that shows that the need for statistical data is absolutely stringent, and the general agricultural census was an advantage, in the sense that it reconsidered, updated, the situation of farms and agricultural land.

Literature review

A number of authors have turned their attention to the agricultural sector. Thus, Anghelache, Samson and Stoica (2020) studied the main elements of the European Union's strategy in the field of agriculture. Bezemer and Headey (2008) have tried to identify measures that can be taken to develop agriculture. Fleurbaey (2009) attempted to identify social welfare measures. Hansen et al. (2013) conducted a study that revealed the negative effect of forestry in some areas. Islam (2011) conducted a comparative study on the various incentives leading to the development of agriculture. Lowder, Bertini and Croppenstedt (2017) presented data and perspectives on the evolution of agriculture. Mogues, Fan and Benin (2015) studied the role of public investment in agriculture. Quamrul and Michalopoulos (2015) analyzed how climate volatility influences agricultural activity.

Methodology

In order to facilitate the understanding of the content of the indicators used, we have further presented some clarifications from the methodology used by the National Institute of Statistics. Thus, the agricultural holding represents

the technical-economic unit in its own right, with a unique management and carrying out agricultural activities by using agricultural areas and / or raising animals or activities to maintain agricultural areas in good agricultural and environmental conditions, either as main activity, or as a secondary activity.
The location of the agricultural holding is the place where the agricultural holding carries out the most important activity, regardless of the number of locations where it uses areas and / or holds livestock. As a result of the location of the agricultural holding depending on the importance of its activity within several localities, it was included in its entirety in the locality, county, development region or macro-region where it was located.

The agricultural area used (OR) is the area of agricultural land used by an agricultural holding, which is obtained by summing the arable land, family gardens, pastures and hayfields, permanent crops and greenhouses and solariums.

Arable land is the area that is plowed every year or at longer intervals, according to a system of crop rotation, in order to cultivate annual or perennial plants. Arable land also includes land left uncultivated due to flooding, clogging, other temporary disasters or other causes.

The family garden is the area intended for obtaining agricultural products, mainly for the own consumption of members of the agricultural holding without legal personality. A family garden can be made up of both arable land and permanent crops, with an area of less than 15 acres.

Pastures and hayfields are lands covered with grassy vegetation naturally or regenerated by sowing and intended for grazing animals and / or mowing.

Permanent crops are areas occupied by crops for a long period of time and from which production is obtained for several years in a row, crops on which no rotation system is practiced and which are other than permanent pastures. Permanent crops include areas occupied by orchards, fruit bushes, vineyards, orchards, vineyards and forestry. Both nurseries and weaving plants are registered.

Greenhouses or solariums represent the area cultivated with crops in greenhouses or solariums fixed or mobile, glass or rigid or flexible plastic, throughout or for a large part of their vegetative cycle.

The annual work unit (UAM) represents the volume of work carried out on the agricultural holding by a person, in equivalent full-time work, during 225 days worked per year, 8 hours per day.

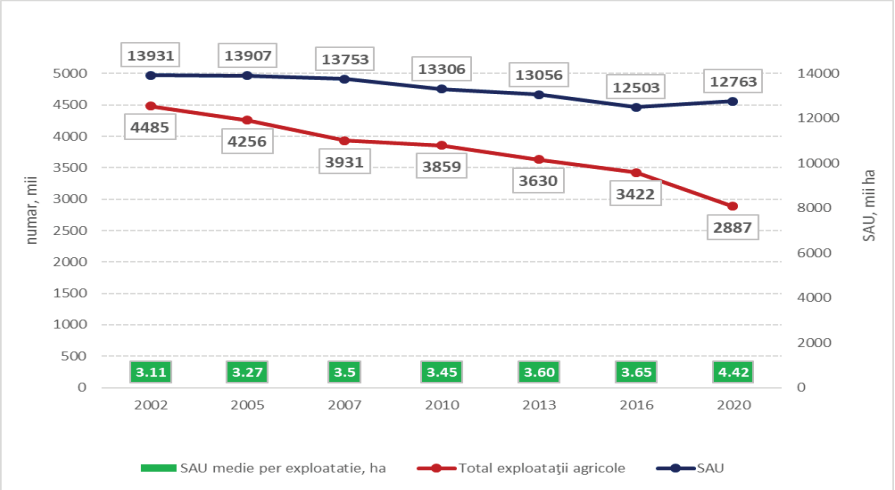
Data, results and discussions

Agriculture has been and will remain an important branch and must make a greater contribution to the formation and growth of the Gross Domestic Product. The reform carried out in agriculture had negative effects because the size of the plots was reduced, making it impossible to apply an advanced agro-technics. Thus, in 2020, in Romania there were 2,887 thousand agricultural holdings that used 12.8 million hectares of agricultural land.

The provisional results of the General Agricultural Census round 2020 show that, over 10 years, the number of agricultural holdings decreased by 972 thousand, respectively by 25.2%, and the utilized agricultural area decreased by 543 thousand ha, respectively by 4.1% . The evolution of the number of agricultural holdings and utilized agricultural area (UAA) in the period 2020-2020 is shown in graph number 1.

Evolution of the number of agricultural holdings and utilized agricultural area (UAA) in the period 2020-2020

Chart 1



Source: INS release number 74/24 March 2022

The analyzed data show that the total number of agricultural holdings was about 2,887 thousand in 2020, lower by about 972 thousand, respectively 25.2% compared to 2010. From these the number of agricultural holdings without legal personality was 2,862 thousand , 25.3% lower than in 2010, and the number of agricultural holdings with legal personality was approx. 25 thousand, 17.3% less than in 2010.

The decrease in the number of agricultural holdings has led to an increase in the average agricultural area per holding by 28%, from 3.45 ha in 2010 to 4.42 ha in 2020.

The downward trend in the number of agricultural holdings, in particular very small ones, was reflected in the structure of agricultural holdings by reducing the share of holdings with a utilized agricultural area of less than 0,1 ha from 10,3% in 2010 to 4, 3% in 2020 and the increase in the share of agricultural holdings have used areas larger than 10 ha from 2.2% in 2010 to 4.2% in 2020.

By categories of agricultural holdings, the used agricultural area that returned on average to an agricultural holding without legal personality was 2.73 ha, compared to 1.95 ha in 2010, and the used agricultural area that returned on average to a farm agricultural land with legal personality was 194.78 ha, compared to 190.78 ha in 2010.

Regarding the number of small agricultural holdings, which used an agricultural area of up to 1 hectare, it decreased in 2020 compared to 2010 by 488 thousand agricultural holdings, respectively by 24.2%. The decrease in the number of small farms has largely contributed to the number of those who have used an agricultural area of less than 0.1 ha.

In terms of the size of the agricultural area used, in 2020, the structure of agricultural holdings was different in terms of their number, compared to the structure in terms of agricultural area used as follows: agricultural holdings below 1 ha, although they represented 54 , 0% of the total number, used only 4.6% of the agricultural area; agricultural holdings with sizes between 1 and 5 ha accounted for 36.3% of the total number and used 18.2% of the agricultural area; large agricultural holdings, over 50 ha, had a very small share (about 1%) in terms of their number, but used 54.0% of the agricultural area.

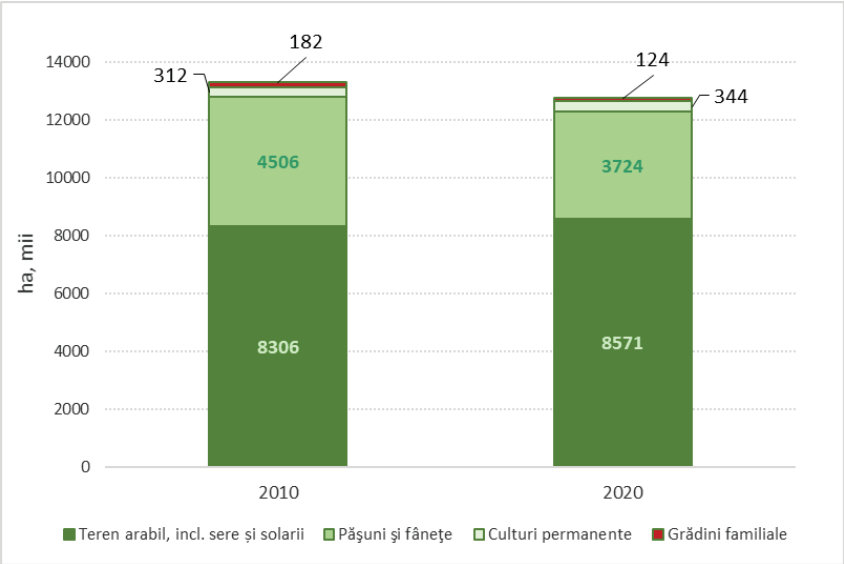
From the point of view of the ownership of the agricultural area used in 2020, the owned areas including the common land (48.9%) and the leased ones (37.5%) had the highest shares. The utilized agricultural area owned by agricultural holdings without legal personality accounted for 37.9% of the total utilized agricultural area, while for agricultural holdings with legal personality it accounted for 6.6%.

The agricultural area used was 12,763 thousand ha, and in the last ten years, since the 2010 General Agricultural Census, the agricultural area has decreased by 543 thousand ha (4.1%). In 2020, arable land and permanent crops increased by 258 thousand ha (3.1%) and 32 thousand (10.4%), respectively, while the area with pastures and hayfields decreased by 783 thousand ha (approx. 17.4%) compared to 2010.

Graph number 2 shows the main categories of agricultural land used (thousand ha) in 2010 and 2020.

Main categories of agricultural land used (thousand ha) in 2010 and 2020

Graph 2



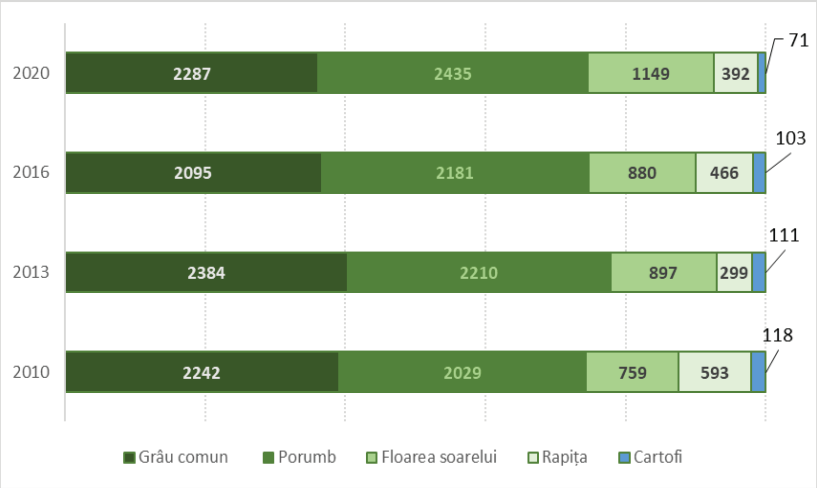
Source: INS release number 74/24 March 2022

Interpreting the data, we find that in the structure of the agricultural area, the share of arable land was 67.2%, which indicates an increase of 4.7 percentage points compared to 2010, the share of pastures and hayfields was 29.2% 4.7 percentage points, while the area of permanent crops had a share of 2.7%, increasing by 0.4 percentage points.

Graph number 3 shows the evolution of cultivated areas with the main crops (thousand ha) in 2010, 2013, 2016 and 2020.

Evolution of cultivated areas with main crops (thousand ha) in 2010, 2013, 2016 and 2020

Graph 3



Source: INS release number 74/24 March 2022

The provisional results of the General Agricultural Census 2020 show that the main arable crops are: corn, common wheat, sunflower and rapeseed, totalling a percentage of 73.1% of arable land compared to approx. 67.7% in 2010.

Table 1 sets out the data on agricultural holdings and agricultural area used by macro-regions and development regions in 2020.

Agricultural holdings and utilized agricultural area by macro-regions and development regions in 2020

Table 1

indicator	U.M.	Macroregion one		Macroregion two		Macroregion three		Macroregion four	
		Nord - Vest	Centru	Nord - Est	Sud - Est	Bucuresti - Ilfov	Sud Muntenia	Sud - Vest Oltenia	Vest
Number of agricultural holdings	thousand	443	318	593	324	17	522	467	203
Agricultural area used	thousand ha	1789	1606	1834	2173	79	2283	1484	1515

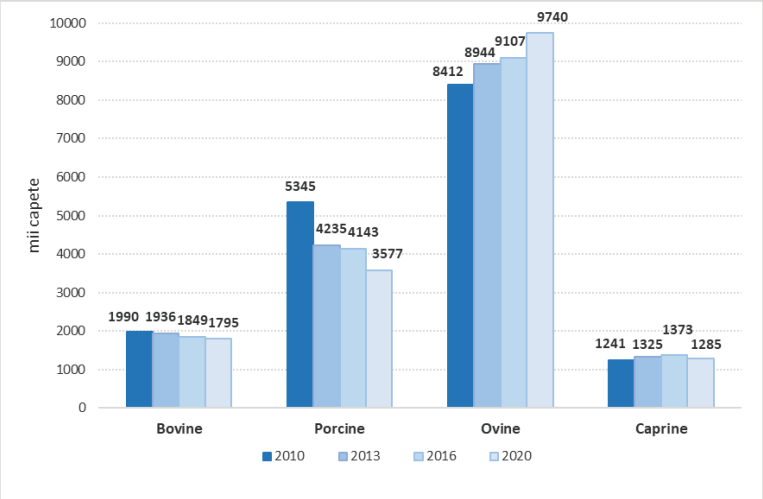
Source: INS release number 74/24 March 2022

We find that both the number of agricultural holdings and the agricultural area used are distributed according to the specifics of the area. We also note that in macro-region two are the most agricultural holdings (31.8%) and they use the largest agricultural area (31.4%). As development regions, on the first places, in terms of the number of agricultural holdings, were the North-East and South Muntenia regions, with 20.5% and 18.1%, respectively, and in terms of agricultural area used, the regions of South Muntenia (17.9%) and South-East (17.0%).

Graph number 4 shows the evolution of cattle, pigs, sheep and goats in the years 2010, 2013, 2016 and 2020.

Evolution of cattle, pigs, sheep and goats herds in 2010, 2013, 2016 and 2020

Chart 4



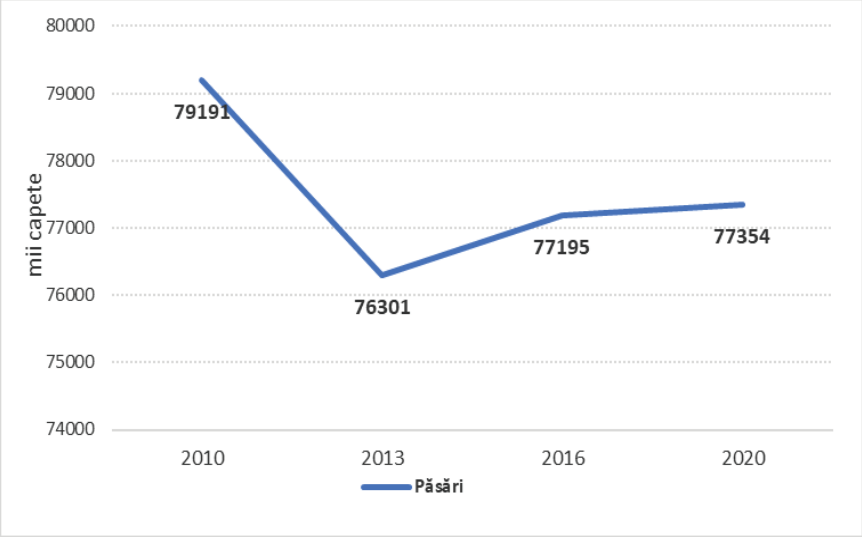
Source: INS release number 74/24 March 2022

We find that in 2020 the number of pigs and cattle decreased by 33.1% and 9.8%, respectively, and those of sheep and goats increased by 15.8% and 3.5% compared to those recorded in 2010.

The evolution of poultry flocks in 2010, 2013, 2016 and 2020 is shown in graph number 5.

Evolution of poultry herds in 2010, 2013, 2016 and 2020

Chart 5



Source: INS release number 74/24 March 2022

We see a sharp decrease in poultry numbers in 2013 compared to 2010, followed by a slight return to 2020, but at the reference time December 31, 2020 there is a decrease in poultry numbers compared to December 31, 2010.

The situation of bovine, porcine and ovine herds by macro-regions and development regions in 2020 is presented in Table 2.

Situation of bovine, porcine and ovine herds by macro-regions and development regions in 2020

Table 2

	Cattle	Pigs	Sheep
	thousands of heads		
Macroregion one	**739**	**915**	**3843**
Northwest	347	549	1862
Center	392	366	1981
Macroregion two	**582**	**899**	**2841**
Northeast	399	406	1262
South East	183	493	1579
Macro-region three	**190**	**398**	**880**
Bucharest - Ilfov	3	6	8
South Muntenia	187	392	872
Macroregion four	**284**	**1365**	**2176**
South - West Oltenia	133	430	569
West	151	935	1607

Source: INS release number 74/24 March 2022

Interpreting the data presented in table number 2, we find that there is a concentration of cattle in the North-East (22.2%), Centre (21.8%) and North-West (19.3%) development regions. Pig herds were also the highest in the West (26.1%), North-West (15.3%) and South-East (13.8%) development regions, and sheep were predominant in the Central (20.3%), North-West (19.1%) and West (16.5%) development regions.

Data on the agricultural workforce are given in Table 3.

Labour force in agriculture

Table 3

	Number of working days 2010	Number of working days 2020	thousand UAM 2020
Total agricultural holdings	367.753.946	226.062.217	1.005
Total agricultural holdings without legal personality	350.059.598	207.977.765	925
Total agricultural holdings with legal personality	17.694.348	18.084.452	80

Source: INS release number 74/24 March 2022

According to the data presented, we find that the volume of work on agricultural holdings, expressed in annual units of work (UAM), in 2020, decreased by about 39% compared to that recorded in the General Agricultural Census in 2010. Also in in 2020, the total workload was 1,005 thousand annual work units, 925 thousand annual work units in agricultural holdings without legal personality and 80 thousand annual work units in agricultural holdings with legal personality. Compared to 2010, the volume of work recorded in 2020 decreased by about 40% in the case of agricultural holdings without legal personality, but increased by about 2% in the case of agricultural holdings with legal personality.

Conclusions

From the study of this article, a series of conclusions can be drawn, especially practical ones. First of all, it is found that in Romania the situation of agricultural holdings, in terms of number and area, has undergone great changes in the last 10 years, ie from 2010 until now. In this sense, the number of small and very small farms has been reduced, as a result of the transfer of land to farmers with small areas for rent or limited mergers and associations, but which has a positive effect on the prospect of working with advanced agro-technical methods.

Another conclusion is that large farms have grown, but not alarmingly, with an average of 195 hectares per farm, which means a special framework for working with advanced agro-technical means of agricultural land. At these large farms there is a sure prospect of increasing irrigation, of properly managing, scientifically fertilizing and improving the soil, of using substances to control pests so that agricultural production grows.

Last but not least, it should be mentioned that Romania has the most suitable structure for agricultural and arable land, but due to the fragmentation still in small farms, without very large legal personality, the productions that the soil through its quality can offer cannot be obtained. At the same time, there is room for more substantial subsidies from the Romanian state and even for the increase of these subsidies within the National Recovery and Resilience Program, so that Romania's rich arable land will produce at the level to which it is entitled.

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