

## ANALYSIS OF THE IMPORTANCE OF AGRICULTURE SECTOR IN ROMANIAN ECONOMY

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### **Abstract**

*Agriculture has been and remains the support of the human existence, which is an important pillar of the Romanian rural economy. This paper proposes an analysis of the main factors involved in the development of the agriculture in Romania: the share of agriculture in GDP, the land use, labor force in agriculture, farming and the production of agriculture in Romania. The used research methodology was based on analysis and synthesis of the information on the economic and social aspects of the development of the agriculture. In conclusion, the authors of this paper wanted to emphasize the necessity of the agriculture in ensuring the food security of the population, highlighting the need of strengthening the exploitation farms, of upgrading the technology and the overall improvement of the farmers work.*

**Key words:** agriculture, evolution, farms, production, Romania

### **INTRODUCTION**

Agriculture has been and remains of great importance at the global and the European levels, and as for Romania, it has an even greater national importance.

According to the specialists, "agriculture is a complex issue", regarding the openness and the interaction with other activity sectors [4] and is "the core around which is constituted the ensemble of branches and activities upstream and downstream ". [8,9]

Agriculture, in predominantly agricultural areas, represents the pillar of the rural area, which means that there cannot be conceived any rural development program without agriculture holding a key role. Although, lately, there intervened some significant changes in the role and in the functions of agriculture (which remains the main component of any rural development program), such as appearing the issue of a new philosophy in developing the agriculture system, which leads to the idea of changing the center of gravity of the productivist aspect on its multifunctional aspect. [5]

The availability and stability of the food

supply chain and agriculture are major factors for ensuring the food security of the population, at a macroeconomic and microeconomic level. Although it has important agricultural resources, Romania is one of Europe's most vulnerable countries in terms of ensuring security of the population, according to the assessments made by various international organizations.[1]

Defining the place of agri-food economy in general, and of agriculture in particular, in the national economy, it can be achieved through a panel of relevant synthetic indicators related to resources and inputs, ensuring on the one hand results and on the other hand outputs. [10]

In this paper, the authors wanted to highlight the importance and the role of agriculture in the Romanian economy by analyzing the following indicators: the share of agriculture in GDP, the land use, labor force in agriculture, farming and agriculture production in Romania.

### **MATERIALS AND METHODS**

The analyzed data were collected by documentary study of specialized literature

(books and volumes of scientific papers) in the agricultural field. The methodology included primary statistical analysis of the data, using as a tool for the quantitative analysis the software Microsoft Excel (for tables and graphs). The data used in this analysis covered the period of 2007-2014.

## RESULTS AND DISCUSSIONS

Regarding the *contribution of agriculture to GDP*, we find that this is one of the major

branches of the Romanian economy, through the land resource which it owns (0.41 hectares of arable land/ capita compared to 0.21 as the average EU-27), but also through the contribution of this sector to the gross domestic product (GDP). It lies around 6% of GDP, ranging between 5.8% in 2007 and 4.7% in 2014, while in EU member states it is approximately 1.7%. [6]

Table 1. Share of agriculture, forestry and fishing in GDP (Lei Mil. current prices)

The gross domestic product (GDP)	2007	2008	2010	2011	2013	2014
Agriculture, forestry and fishing	23,992.2	34,126.3	29,915.7	36,363.1	34,402.8	31,582
TOTAL GDP	416,006.8	514,700	533,881.1	565,097.2	637,456.0	666,637.3
% of GDP	5.8	6.6	5.6	6.4	5.4	4.7

Source: Official website of the Ministry of Agriculture and Rural Development ( www.madr.ro )

With regard to the **land resources**, of the 23.8 million ha as sums the Romanian territory, the agricultural area in 2013 was 14.6 mln. ha (61.3 %), of which about 9.3 mln. ha represents arable land.

By use, arable land covers about 64.3 % of the agricultural areas, followed by 22.4 % pastures, 10.6% meadows and vineyards and orchards hold together only 2.7 %.

Table 2. Land fund by use

Specification	2007	2009	2010	2012	2013	%
Agricultural area, of which:	14,709.3	14,684.9	14,634.5	14,615.1	14,611.9	<b>100</b>
<i>Arable</i>	9,423.3	9,422.5	9,404.0	9,392.3	9,389.2	<b>64.3</b>
<i>Pastures</i>	3,330.0	3,313.8	3,288.7	3,270.6	3,273.9	<b>22.4</b>
<i>Meadow</i>	1,531.4	1,528.0	1,529.6	1,544.9	1,541.9	<b>10.6</b>
<i>Vineyards</i>	218.0	215.4	213.6	210.5	210.3	<b>1.4</b>
<i>Orchards</i>	206.6	205.2	198.6	196.8	196.5	<b>1.3</b>

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (www.madr.ro)

In 2007-2013, the areas of the agricultural and arable land in Romania have not changed significantly, registering only modest reductions due to the transfer of land to forestry and construction sectors.

In regard to **the labor force**, it shows that in terms of numbers it represents an important resource for our country's agriculture, through which agriculture may increase its contribution to the production of added value in the national economy.

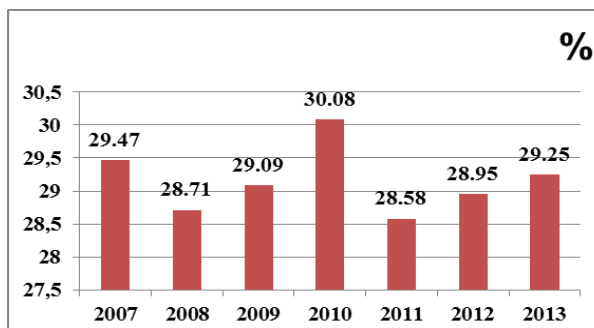


Fig. 1. Evolution of the labor force in Romania's agriculture

Following the evolution of the labor force in Romania, it may be seen a downward trend, both in the total employed population (from

9,353 thousand people in 2007 to 8,549 thousand people in 2013), also in the employed population in agriculture (from 2,757 thousand people in 2007, to 2,501

thousand people in 2013), but the share of employed population in agriculture in the total population is still high (29.25 %).

Table 3. Evolution of labor force

Specification	2007	2008	2009	2010	2011	2012	2013
Total employed population (thousand)	9,353	9,369	9,243	9,240	9,138	9,263	8,549
Employed population in agriculture, forestry and fishing (thousand)	2,757	2,690	2,689	2,780	2,612	2,682	2,501
% of the employed population	29.47	28.71	29.09	30.08	28.58	28.95	29.25

Source: Official website of the Ministry of Agriculture and Rural Development ( www.madr.ro)

Depending on the legal status, the agricultural exploitation farms are comprised into two categories: unincorporated farms and farms with legal personality.

In 2013, in Romania there were 3.63 million agricultural exploitation farms in which 3.602 thousand are unincorporated farms and only 28 thousand have legal personality, which determines their dual character.

Analyzing the number of the farms, it can be seen that in 2013 they were reduced by approximately 6% compared to 2010, due to

the process of land merging.

The number of unincorporated farms in 2013 was lower than 2010 by 5.9% (those with area less than 1 ha decreased in 2013, in comparison to 2010 with about 3.8%) and the number of farms with legal personality in 2013 was lower than in 2010 by 9.2%.

As for the utilised agricultural area with the average cover per farm, it have increased from 3.11 ha in 2002 to 3.45 ha in 2010, and in 2013 the average area per exploitation has reached 3.6 ha.

Table 4. Evolution of agricultural exploitation farms

Indicators	MU	Total exploitations			Expl. without legal entity			Expl. With legal entity		
		2002	2010	2013	2002	2010	2013	2002	2010	2013
Nr. agric. exploit. farms	thousand	4,485	3,859	3,630	4,462	3,828	3,602	23	31	28
Utilised agricultural area (UAA)	thousand ha	13,931	13,056	13,306	7,709	7,450	7,271	6,222	5,856	5,785
UAA /exploitation	ha	3.11	3.45	3.60	1.73	1.95	2.02	274.4	190.7	207.4

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (www.madr.ro)

Analyzing the data in the Table 4, it shows that the most of the agricultural exploitation farms represents small farms below 2 ha (99.2 % as number and 55.7 % of UAA), at the opposite side having **the large agricultural exploitation farms of over 200 ha, although numerically represents only 0.8 % of the total farms, holding 44.3 % of the utilized agricultural area.**

The existence of the large number of small farms in parallel with very large farms reveals the structural imbalance which affects the agriculture in our country and its competitiveness.

From Table 4 it can be seen that the number of farm holdings is very high, but shows a decreasing trend, and once with the decrease the number of agricultural holdings increases the average area of agricultural holdings.[3]

The agricultural production includes two main branches: crop branch and livestock branch. In the **plant production**, the production of cereals, analyzed during 2007-2014, holds permanently the largest share.

Regarding the structure of the grain production, the first position is occupied by corn, followed by wheat and rye, barley and two row barley, and at the last positions we

find oat and rice with much smaller shares.

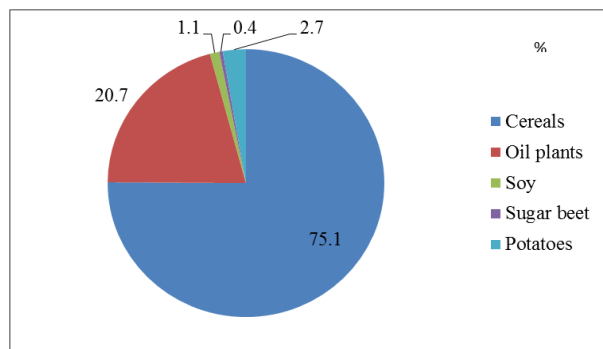


Fig. 2. Structure of the main crops cultivated in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

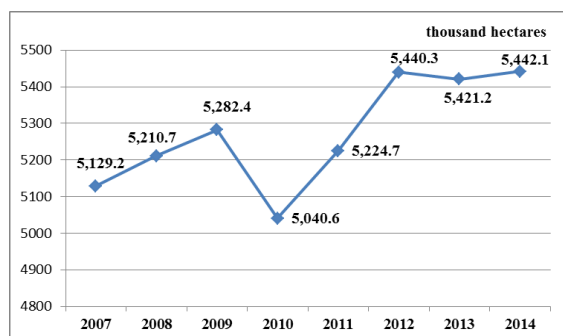


Fig. 3. Evolution of surface planted with cereals in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

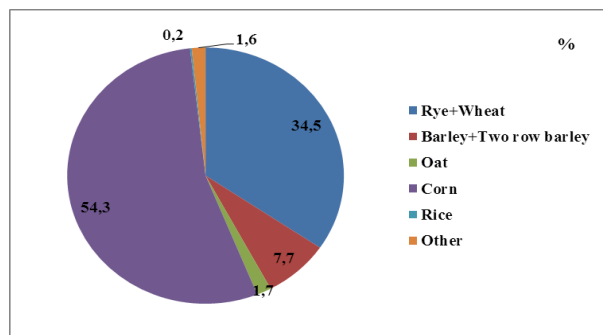


Fig. 4. Structure of the grain production

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

The cereal grain production in 2014 increased by 3.4 % over the previous year, due to the increased outputs per hectare as follows: corn (+ 7.2%) , barley and two row barley (+ 6.3%), wheat (+ 3.8%) , and oat (+ 1.5%) .

The oil plants production increased by 15.1% due to both the increase of the cultivated

surface (+ 4.7% ) and to the yield per hectare. Some production increases were registered for: rapeseed (61% ) and soybeans (+ 35.3% ) mainly due to increased of the cultivated surface (48.4% and +17.6%).

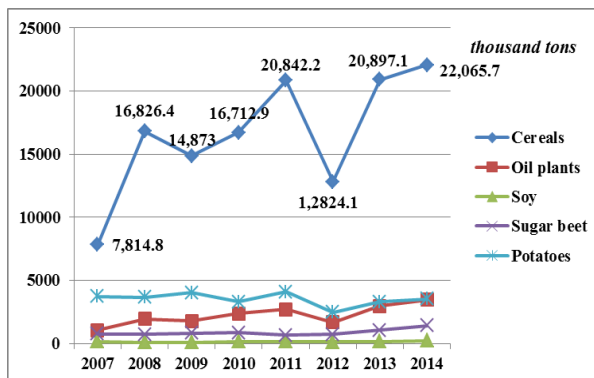


Fig. 5. Main crops total production in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

The area planted with sunflower decreased by 7.6%.

The sugar beet production increased by 31.9%, mainly due to increased efficiency per hectare by 19.1% and 10.7% of the cultivated area.

The potatoes production increased by 7% due to increased efficacy per hectare (+ 9.1% ) while the cultivated area decreased ( -2% ) over the previous year.

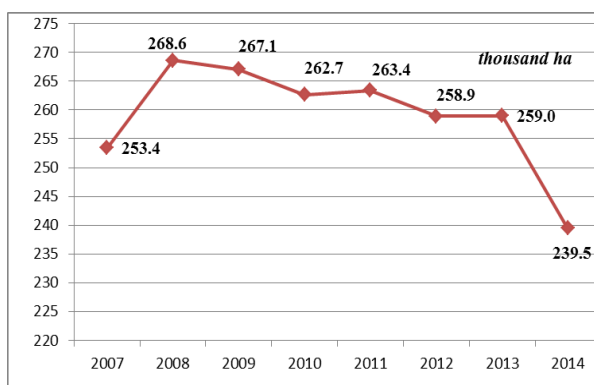


Fig. 6. Evolution of surface cultivated with vegetables in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

**The leguminous plants for beans and the oil plants have smaller shares in both the cultivated surface and in the agricultural production obtained.**

The 2014 vegetable production to 2013 was lower by 3.9 % due to the decrease in cultivated area by 7.7 % .

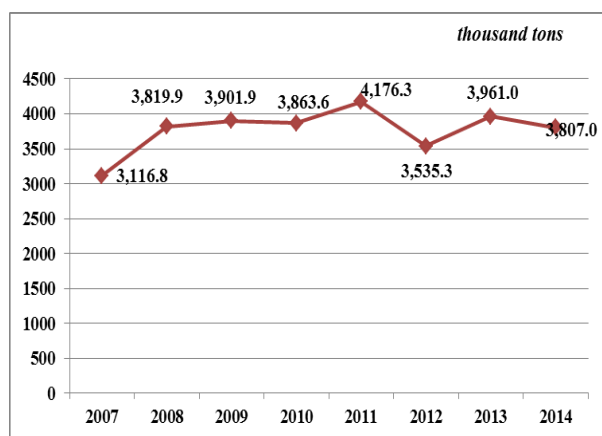


Fig. 7. The total vegetables production obtained in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

In 2014, the level of vegetable production was higher for cucumbers (+ 7.1% ), carrots (+ 2.7%), peppers (+ 0.4%) and lower for melons and watermelons (-16.5%), tomatoes (-5.1 %), cabbage (2.9%) and onion (-1.3%).

**The livestock sector** is the second largest component of agricultural production, which, although in our country benefits from favorable natural conditions, holds a small share in the overall total production.

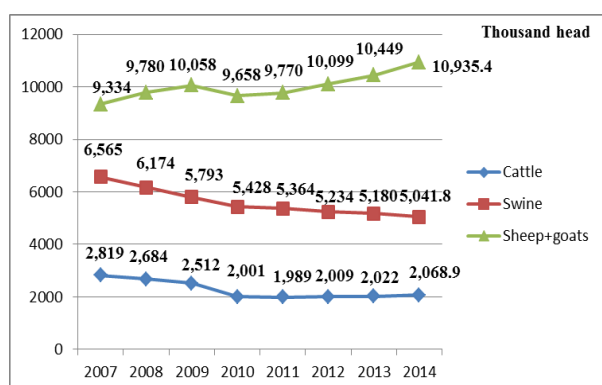


Fig. 8. Livestock in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

Considering the table, it can be seen that at species as cattle, swine and poultry are recorded consecutive declines, and species as sheep and bees (from 982 thousand families in

2007 to 1,497 thousand families in 2014) have some small increases.

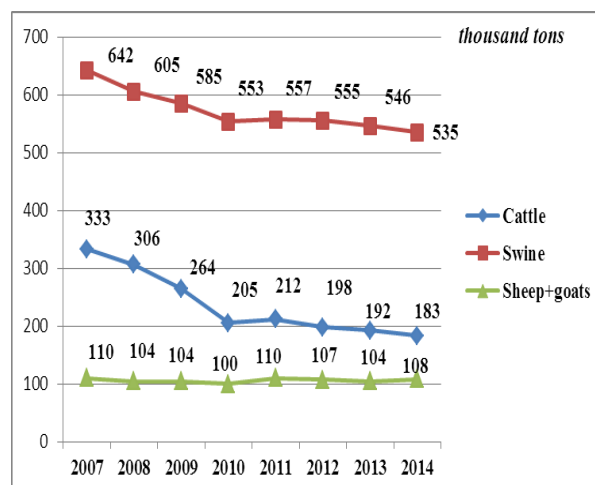


Fig. 9. Livestock production in Romania

Source: Own processing after the official website of the Ministry of Agriculture and Rural Development (ww.madr.ro)

At the level of 2014, the weight of animals and poultry raised for human consumption increased by 1.2%, thus: 6.8% from poultry and 3.8% from sheep and goats.

The weight of cattle decreased by 4.7% and of swine by 2.0%. T

he total milk production was by 3.7 % higher. The wool production increased slightly and the total production of eggs increased by 3.9 % compared to 2013.

**The production of agricultural goods and services** represent the producer prices, plus product subsidies and less taxes on products.

Within agricultural production, the crop production was predominant, in 2014 held 65.8% of the total production, compared to 32.9%, which represented the animal production and only 1.3% of the agricultural services.

Therefore, the authors emphasize that Romania's agricultural production is not optimally structured, which requires a conversion as high as possible to the crop production and animal products in order to increase profitability.

Table 5 .The value of agricultural production ( Lei Mil.)

Specification	2007	2009	2011	2013	2014	%
Crop	28,723.4	35,735.5	54,179.8	53,843.8	49,058.3	65.8
Animal	18,291.6	23,441.6	21,784.1	23,876.5	24,481.6	32.9
Agr. services	684.8	751.3	544.8	744.0	984.5	1.3
Total	<b>47,699.9</b>	<b>59,928.4</b>	<b>76,508.7</b>	<b>78,464.4</b>	<b>74,524.4</b>	100

Source: Official website of the Ministry of Agriculture and Rural Development ( www.madr.ro )

## CONCLUSIONS

Following the analysis, the authors of the paper have emerged the following conclusions:

- The share of agriculture in GDP was maintained at a high level, well above the EU average, in the analyzed period 2007-2014 (4.7 % in 2014 compared to EU average of 1.7%).
- As regards the land fund structure there were no significant changes, only some reductions in the agricultural area due to the transfer to other sectors, but that does not negatively affect agricultural development; Romania standing well to the land resources chapter, as development potential.
- Regarding Romania's agriculture labor force, it was found that numerically remains at a high level, even if there is a downward trend. To note that in this period we are witnessing the change of the generations of farmers. Mainly, to this process, a large contribution have the financed projects from EU funds, especially those that support the setting up of the young farmers.
- One of the main factors limiting the increase of the Romanian agriculture competitiveness is the accentuated bipolarity of the agricultural exploitation farms.
- Romania's agricultural production varies from year to year and related to the crop production it was observed an increasing trend of cultivated areas with major crops in the analyzed period between 2007-2014. Regarding to the livestock analysis, in the same period, there was recorded a downward evolution, being registred a trend of reorientation of the livestock production to the raise of small livestock.
- In the agricultural production, the crop production is predominant. Achieving the equilibrium between the plant sector and the animal sector is still a goal of Romanian

agriculture. It aims to increase and improve the livestock raised for meat and milk, to increase the areas cultivated with fodder and protein plants for the growth of the production yields to livestock, which in turn, will lead to the development of the food processing units. Thus, Romania's agricultural production has a sub-optimal structure, being among others a cause of the reduction of the profitability of the agriculture. It requires the conversion of a bigger section of the crop production in the animal products, being the safest and the most economical way to increase the profitability of agricultural production in general.

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