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## THE STRUCTURE OF PRODUCTION IN ROMANIAN AGRICULTURE - THE GAP BETWEEN THE EU27

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### Abstract

*The paper aims to capture the differences between the production structures of different countries and differences existing in some respects, between Romania and EU. In achieving this, the comparison and analysis methods of statistical data are used. Results show that gaps between agriculture of EU27 countries are found in terms of expansion known by different industries and cultures, rather than the kind of branches practiced.*

*Different production structures and, particularly, development of agriculture of various countries generate differences on synthetic results obtained by them and their contribution to economic growth. Such a thing must be a strong reason for reflection and, in particular, for action for all those directly connected to the situation of Romanian agriculture.*

Key words: *structure of production, livestock, plant production, yield*

### Introduction

Characterization of the structure of production in the EU, to the existence of the 27 member countries, sharing an area of approx. 4 million km<sup>2</sup>, is a complex process. An overall assessment on the structure of EU agriculture production 27 shows evidence that it contains branches and cultures, in greater or lesser extent, that are found in all countries. Differences between countries have multiple determinations. It is recognized the role of climate and soil conditions and whether they meet the requirements of

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different industries and cultures. It is recognized also that they interfere with restrictive, prohibiting so, the practice of crops in some areas. Soil and climate conditions, with few exceptions, such as removal of drought with irrigation, correcting acid soil reaction or providing nutrients can not be corrected to make them conducive to certain cultures. Naturally, there are areas of favourability in each country for different crops. Overall, agricultural area of a country is suitable for certain uses and these are favourable for different cultures. As a result, quite rightly, it is estimated that agricultural production in one country can not be outsourced from one area or another as it happens with the industrial.

## Material and method

For this work to appeal to documentation and data obtained from the European statistics. Likewise, the comparison method was used to capture the differences between the production structures of different countries and differences existing in some respects, between Romania and EU (reporting being done in some countries and, obviously, the EU average). Along with analysis and comparison to appeal and consolidated, taking into account the volume of information, diversity of branches of production with the variety of natural and economic conditions of the 27 EU countries

## Results and discussions

### *Plant production*

The branch prevalent in EU agriculture in crop production is **cereals**. On average, they hold almost 31% of agricultural area used. For different reasons, there are countries where the share of cereals is higher and, of course, the other where is lower. Primarily, cases are determined by the area held by grain, but also the structure of how to use the land for the purposes of its share of incumbent categories of use: pastures and natural meadows, vineyards and orchards. Thus, in the case of Romania, where the share of cereals the land area was 64.9%, in 2006, due to areas held by the above categories use their share in agricultural land use was only 35.9%. It seems more relevant the share of cereals in arable land, when it is high shows that they extend to the detriment of other branches, by printing a highly grain farming. However, a developed agriculture requires a diversified production structure, taking into account the specific conditions, paying attention to other branches; their role is recognized in ensuring a balanced diet for the population and raw materials for various industries for processing and to meet other needs of the economy.

There are other countries where the share of cereals in the agricultural area used it is above the European average, while others have weights lower than average. Higher share of cereals held Denmark - 55.1% and Poland - 52.5% (Table 1).

**Branch of oil seed crops** is found mainly in two crops: rapeseed and sunflower, their share per countries being different. In most countries the prevailing culture is

rape, except Romania, Bulgaria, Hungary and Italy. Climatic reasons or because the sunflower is a rapacious culture in the use of soil nutrients, or that consuming olive oil or imported, this culture is extended only in a few countries, including Romania (the biggest area planted). Share of oil country cultures is usually below 10%.

Table 1 – Share of cereals in agricultural utilized area, EU27, 2007 (%)

No.	Country	Country		No.	Country	Country	
		Above average	Under average			Above average	Under average
1	Belgium		23,8	15	Luxemburg		22,3
2	Bulgaria		29,7	16	Hungary	48,8	
3	Czech	43,0		17	Malta	-	-
4	Denmark	55,1		18	Netherlands		11,5
5	Germany	39,5		19	Austria		24,0
6	Estonia	36,8		20	Poland	52,5	
7	Ireland		6,6	21	Portugal		9,2
8	Greece		26,2	22	Romania	35,9	
9	Spain		25,0	23	Slovenia		19,6
10	France		27,9	24	Slovakia	38,2	
11	Italy		24,3	25	Finland	50,1	
12	Cyprus	38,2		26	Sweden		30,05
13	Latvia		27,6	27	UK		17,1
14	Lithuania	34,5		28	EU27 average 30.8 %		

Source: EUROSTAT

**Vegetables** do not have a significant share in the agricultural area used, the European average being 0.9%. Over the medium lies there are: Lithuania (1.5%), UK (1.4%), Austria (1.3%), Spain (1.3%), and France (1%). For Romania, the share of legumes is 0.5%

**Fresh vegetables** have also low shares. Large growing vegetables are: Italy, France, Poland, United Kingdom, Hungary, and the Netherlands.

**Green fodder** accounts in EU 27 for 3.9% of agricultural area used, more than 7 million hectares cultivated. According to available data, green fodder ranks third in production structure, after cereals and oilseeds. Share of this branch reached in some cases to 15%. Of course, here comes the link between industry and the development of livestock in each country. With a livestock rising mostly traditional, Romania cultivates feed on an area accounting for 1.3% of agricultural area used. In providing forage base involved, of course, pastures and natural grassland, but also secondary production from field crops (fodder containing low nutrient). Extension of forage crops are related to livestock development.

**Sugar beet** is grown in the EU27 in a proportion of only 1% of agricultural area used. By country, areas held by the beet are relatively low. The largest proportion

(6%) is met in Belgium. Significant levels of surface cultivated with beet are found in countries such as France (379 thousand ha), Germany (358 thousand ha), Poland (262 thousand ha), United Kingdom (131 thousand ha) etc. Romania cultivates, usually, 40 thousand hectares.

**Potatoes** have, at European level, a slightly larger share (1.2%) compared to beet. All EU countries grow, in larger or smaller areas, potatoes. For Romania, the share held by potato (2%) is higher than the European average. The degree of extension of this culture is determined by multiple forms in which potatoes are found in food consumption by the people, but also other economic uses.

**Viticulture** knows a significant expansion in several countries. Here as well, the climate shows its role fully. Where summers are warm and there are other conditions, the vine has significant share in the agricultural area under cultivation: Italy (5.3%), France (2.6%), Cyprus (5.4%), Greece (2, 3%), Portugal (5.9%), and Slovenia (3.3%). For Romania, the vineyards have used 1.3% of agricultural area; its trend is decreasing after 1989.

### ***Livestock***

In animal husbandry situation presents a higher degree of homogeneity because it increases the same species, the main ones being: cattle, swine, sheep and poultry. The explanation is that among the determinants of production structure the importance of natural conditions decreases, which influences the production structure of plant branch.

**Cattle** are found in all countries (Table 2). Herds are different per countries. Countries with the largest agricultural area used for growing have many animals and the density of animals at 100 meters is the highest. Thus, France is the first of their surface and the livestock.

Further, the hierarchy changes, Germany and the UK stood better in this regard: places 2 and 3 respectively (3 and 4 respectively by area). Spain ranks 4, Italy ranks 5, and Ireland ranks 6 (10 by area). Romania ranks 7 by area, but it ranks 9 per number of animals.

At the opposite pole there are countries that have reduced agricultural area, compared to those mentioned above, but large livestock (Belgium has an agricultural area of more than 10 times lower than Romania, but it has almost the same number of animals - 2.573 million head; Netherlands grown more animals than Romania, but has an agricultural area of 7.5 times less).

The density of animals in 100 hectares of agricultural land is very different. High levels of it, far above the European average (48.1 heads), meet in: Netherlands (201 heads), Malta (190 heads), Belgium (186.2 heads), Luxembourg (149.6 heads), Ireland (138.5 heads). With a density of 20 head on 100 ha land used, Romania is one of the last places (24) in the EU. Romania has a low concentration of the herd of cattle on farms. Compared to a European average of 24 heads, Romania has only 2.2 heads. It is the lowest concentration of the bovine met in the EU27.

**Pigs** are a species found, naturally, in all EU countries, where there are no religious restrictions (Table 3). Large countries have the largest number of pigs.

Table 2 – Number of cattle, 2007

No.	Country	UAS* 1000 ha	Stocks 1000 heads	% of UE27	No.of heads per 100 ha	Place of each country after:		
						UAS	Stocks	No.of heads per 100 ha
1	Belgium	1382	2573	2.9	186.2	22	10	3
2	Bulgaria	5190.1	20611	0.7	11.8	9	19	27
3	Czech	3566	1367	1.5	38.3	13	15	15
4	Denmark	2712	1545	1.7	57.0	17	12	11
5	Germany	16951	12707	14.3	75.0	3	2	7
6	Estonia	762	4242	0.3	31.8	23	24	19
7	Ireland	4261.1	5902	6.6	138.5	10	6	5
8	Greece	3964	682	0.8	17.2	11	19	25
9	Spain	24744	6585	7.4	26.6	2	4	21
10	France	32346	19124	21.5	59.1	1	1	10
11	Italy	14710	6577	7.4	44.7	6	5	13
12	Cyprus	169	656	0.1	33.1	25	26	18
13	Latvia	1855	399	0.4	21.5	21	23	23
14	Lithuania	2791	788	0.9	28.2	16	17	20
15	Luxemburg	129	193	0.2	149.6	26	25	4
16	Hungary	5809	705	0.8	12.1	8	18	26
17	Malta	10	19	0.0	190.0	26	27	2
18	Netherlands	1899	3820	4.3	201.2	20	8	1
19	Austria	3240	2000	2.2	61.7	14	11	8
20	Poland	15957	5406	6.1	33.9	5	7	17
21	Portugal	3767	1443	1.6	38.3	12	14	16
22	Romania	14117	2819	3.2	20.0	7	9	24
23	Slovenia	491	480	0.5	97.8	24	22	6
24	Slovakia	1939	502	0.6	25.9	19	21	22
25	Finland	2301	903	1.0	39.2	18	16	14
26	Sweden	3150	1517	1.7	48.2	15	13	12
27	UK	16761	10078	11.3	60.1	4	3	9
28	Total EU 27	184992	89042	100.0	48.1	*	*	-

\*Utilized agricultural surface

Source: EUROSTAT

Germany is situated in the first place, with 27.113 million heads, or 16.0% from the EU 27. Very close is Spain, 16.3%, followed by Poland, 11% of pigs. France and, in particular, Italy and the UK grow less effectives compared with the countries mentioned above.

With 6.565 million head, Romania has 4.1% of the number of pigs in EU-27. It ranks 8.

In the year 2007, there is a general tendency to reduce the number of pigs, including in Romania, although its potential as arable land is much higher. Only 9 countries have registered increases of effective. The overall EU-27 reduction was 1.2%.

Table 3 – Number of pigs

No.	Country	2007 - 1000 heads -	2008 - 1000 heads -	% of EU27	% 2008/2007	Place in EU, after no.of pigs, 2008
1	Belgium	6304	6200	3,9	-1,6	9
2	Bulgaria	1013	889	0,6	-12,3	21
3	Czech	2741	2662	1,7	-2,9	13
4	Denmark	13613	13170	8,2	-3,3	5
5	Germany	26821	27113	16,9	1,1	1
6	Estonia	341	375	0,2	9,8	25
7	Ireland	1620	1575	1,0	-2,8	16
8	Greece	1033	1038	0,6	0,5	18
9	Spain	26219	26061	16,3	-0,6	2
10	France	15009	14968	9,4	-0,3	4
11	Italy	9281	9273	5,8	-0,1	7
12	Cyprus	453	472	0,3	4,2	23
13	Latvia	417	414	0,3	-0,6	24
14	Lithuania	1127	923	0,6	-18,1	20
15	Luxemburg	87	86	0,1	-0,7	26
16	Hungary	3987	3871	2,4	-2,9	11
17	Malta	74	77	0,0	4,3	27
18	Netherlands	11220	11710	7,3	4,4	6
19	Austria	3139	3286	2,1	4,7	12
20	Poland	18813	17621	11,0	-6,3	3
21	Portugal	2296	2374	1,5	3,4	14
22	Romania	6815	6565	4,1	-3,7	8
23	Slovenia	575	543	0,3	-5,7	22
24	Slovakia	1105	952	0,6	-13,8	19
25	Finland	1435	1427	0,9	-0,6	17
26	Sweden	1662	1728	1,1	4,0	15
27	UK	4731	4674	2,9	-1,2	10
28	Total EU 27	161929	160046	100,0	-1,2	*

Source: EUROSTAT

**Sheep and goats** are the species to which Romania is presented better, holding, in 2007, 4<sup>th</sup> in the first species and 5<sup>th</sup> in the second species, among EU-27 countries (Table 4).

The sheep are concentrated in 12 countries, which have each more than 1 million heads. Other countries have herds of sheep and goats less important. The most important are, by effective, the United Kingdom (23.723 million head), Spain (22.194

million head) - the two countries, holding nearly half (47.9%) of the sheep of the EU-27, being remote from other countries, following the Greece with 8.984 million head, after coming: Romania (8.469 million head). It is possible for some of these countries to have a tradition of very important.

In **goat growing** situation is somewhat similar to that in sheep. The largest upward is Greece, followed by Spain, Romania being at the place 5. Goats are concentrated mainly in three countries - Greece, Spain and France, which together account for 68.1% from the existing EU-27. In EU agriculture, goat is the least developed.

*Table 4 – Number of sheep and goats*

No	Country	Sheep		Goats		No 1000 heads	Country % of EU	Sheep		Goats	
		1000 heads	% of EU	1000 heads	% of EU			1000 heads	% of EU	1000 heads	% of EU
1	Belgium	146	0.2	25	0.2	15	Luxemburg	8	0.0	3	0.0
2	Bulgaria	1526	1.6	496	3.7	16	Hungary	1232	1.3	67	0.5
3	Czech	184	0.2	17	0.1	17	Malta	12	0.0	6	0.0
4	Denmark	98	0.1	0	0.0	18	Netherlands	1715	1.8	355	2.7
5	Germany	1926	2.0	180	1.4	19	Austria	351	0.4	61	0.5
6	Estonia	74	0.1	4	0.0	20	Poland	316	0.3	144	1.1
7	Ireland	3531	3.7	7	0.1	21	Portugal	3365	3.5	514	3.9
8	Greece	8984	9.4	4931	37.0	22	Romania	8469	8.8	865	6.5
9	Spain	22194	23.2	2892	21.7	23	Slovenia	131	0.1	28	0.2
10	France	8285	8.6	1250	9.4	24	Slovakia	347	0.4	38	0.3
11	Italy	8237	8.6	920	6.9	25	Finland	90	0.1	5	0.0
12	Cyprus	292	0.3	368	2.8	26	Sweden	521	0.5	6	0.0
13	Latvia	54	0.1	13	0.1	27	UK	23723	24.7	96	0.7
14	Lithuania	43	0.0	20	0.1	28	Total EU27	95855	100.0	13310	100.0

Source: EUROSTAT

Regarding **poultry**, there are natural differences between countries in the EU-27. As a result, there are large countries increasing laying hens - Germany, Italy, Spain, and France, followed by Romania, United Kingdom, Poland and the Netherlands. The situation is similar to chicken, only the first is the United Kingdom, followed by France, Spain, Germany and Italy. Romania has a weaker position than in chickens. Its potential grain would actually require a higher position.

## Conclusions

The main conclusion is that there are significant gaps in the structure of production between Romania and other EU countries. The reasons supporting this conclusion are different, from natural conditions specific to each country, to the socio-economic (level of development of each country), political (in terms of supporting the development of certain branches), cultural (consumption habits), etc. Here are some possible causes and explanations of these differences.

1. There are a variety of production structures in the EU, less by the type of branches

and more in the degree of extension of each of them.

2. Natural conditions have an important role, leading, of course, to differences between the structures of production of agriculture in EU countries.

3. Romania discrepancies are found in the reduced share of branches that have roles in the diversification of agricultural production and economic performance - fruit growing, viticulture, vegetable growing. They provide higher values of yield.

4. In animal husbandry, herds, by species, are lower than those of countries that have utilized agricultural area near the size held by Romania, but also to those of other countries where this is less than in our country.

5. In Romania, animal products are obtained extensive and can compete at holding the title of organic products, because, for providing forage base for livestock, natural pastures and hay fields are used. Romania grown to feed only 1.3% of agricultural area used, given that the EU27 average is 3.9%.

6. Romania maintains a system of extensive livestock mainly because the density of animals in 100 hectares of land used is 20 head, below the European average of 48.1 heads.

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