

## COMPARATIVE STUDY REGARDING THE DYNAMICS OF AGRICULTURAL HOLDINGS FROM ROMANIA AND EUROPEAN UNION

IOAN BRAD<sup>1</sup>, HARTMUT SOMMER<sup>2</sup>, REMUS GHERMAN<sup>1</sup>, ANA-MARIANA DINCU<sup>1</sup>

<sup>1</sup>*Banat's University of Agricultural Sciences and Veterinary Medicine  
"King Michael I of Romania" from Timisoara,  
Faculty of Agricultural Management, Timisoara, Romania*  
<sup>2</sup>*University of Applied Sciences, Hochschule Bingen, Germany*  
*e-mail: maridincu2004@yahoo.com*

**Abstract:** *Agricultural holding, looked in dynamics is forced to quickly adapt to the development rhythms of the national economy as a whole, because agriculture represents a supplier of raw materials for a wide range of manufacturing industries. Because the agricultural holding is an open system with constantly interacts with the external environment, should ensure the conversion of production, financial and human resources. As much the conversion rate is higher so much the productive process from the enterprise is more advantageous, more competitive. In present paper the authors present the evolution of agricultural holdings from the European Union countries, also from Romania, as a basic element of economy's development. From the researches made results that the utilized agricultural area of Romania decreased in 2013 with almost one million hectares compared to 2002, therefore Romania remains with the most agricultural holdings at European Union's level, but with a share of utilized agricultural area decreased. So, the utilized agricultural area was reduced by 875000 hectares, from 13,93 million hectares, in 2002, to 13,05 million hectares at the end of 2013.*

**Key words:** *agriculture, agricultural holdings, agricultural area, dimension*

### INTRODUCTION

The agricultural holding has a well-defined role, formed along the development of the human society. The main characteristic of each agricultural holding is obtaining of the agricultural products and services in conditions of maximum efficiency. Due to the introduction in agriculture of the technical-scientific progress, the production/service process has subjected to extensive transformations, making that today to discuss about an industrialized agriculture, the example of the Netherlands, Germany, etc. [1]

Agriculture represents, according to some authors, a branch with an remarkable potential, occupying traditionally, an important place in the structure of the Romanian economy. [3, 4, 5] This represents an important factor of social stability and of the maintenance of ecological balance, being the branch that provides the nutrition for population and large quantities of raw materials for food industries and other non-food industries. [2, 6]

To ensure the necessary profit, for future investment funds, the farm must structure and organize based on the scientifically principles. Although in different territorial size, farms were and are supported and targeted to increase their sizes, to convert to commercial farms and to increase sales volume.

### MATERIALS AND METHODS

In order to make a proper scan of agricultural holdings from Romania, the starting point was the consultation of various reference sources.

The theme addressed in this article, represents an actual issue, but also one that will constitute research topics in the future. The research methods and procedures used were the traditional ones, such as analysis, synthesis, comparison, direct and indirect observation, description, evaluation and interpretation.

### RESEARCH RESULTS

The evolution of agricultural holdings from Romania was marked by the general evolution of the society and by the impact of political and social events that occurred in the last century.

According to the latest statistics, the number of agricultural holdings was 3,63 million in 2013, in decreasing compared to 2002, as it is shown in the table below.

**Table 1.**

**The situation of agricultural holdings from Romania**

Indicators	Years	UM	Total agricultural holdings	Agricultural holdings without legal personality	Agricultural holdings with legal personality
Number of agricultural holdings	2002	thousands	4.485	4.462	23
	2005	thousands	4.256	4.238	18
	2007	thousands	3.931	3.914	17
	2010	thousands	3.859	3.828	31
	<b>2013</b>	<b>thousands</b>	<b>3.630</b>	<b>3.602</b>	<b>28</b>
The total area used (SAU)	2002	thousands/ha	13.931	7.709	6.222
	2005	thousands/ha	13.907	9.102	4.805
	2007	thousands/ha	13.753	8.966	4.787
	2010	thousands/ha	13.306	7.450	5.856
	<b>2013</b>	<b>thousands/ha</b>	<b>13.056</b>	<b>7.271</b>	<b>5.785</b>
The utilized agricultural area that remains in average per an agricultural holding	2002	ha	3,11	1,73	247,43
	2005	ha	3,27	2,15	263,08
	2007	ha	3,50	2,29	270,45
	2010	ha	3,45	1,95	190,78
	<b>2013</b>	<b>ha</b>	<b>3,60</b>	<b>2,02</b>	<b>207,49</b>

Source: Adaptation after Anchetă structurală, 2013, and INS, Comunicat de presă nr. 308 din 15 decembrie 2014; [7,8]

By categories of agricultural holdings, the utilized agricultural area which has returned in average per an agricultural holding without legal personality was 2,02 hectares compared to 1,73 hectares in 2002.

The agricultural area used returned in average per agricultural holding with legal personality was 207,49 hectares, compared with 190,78 hectares in 2010, respectively 247,43 hectares in the year 2002.

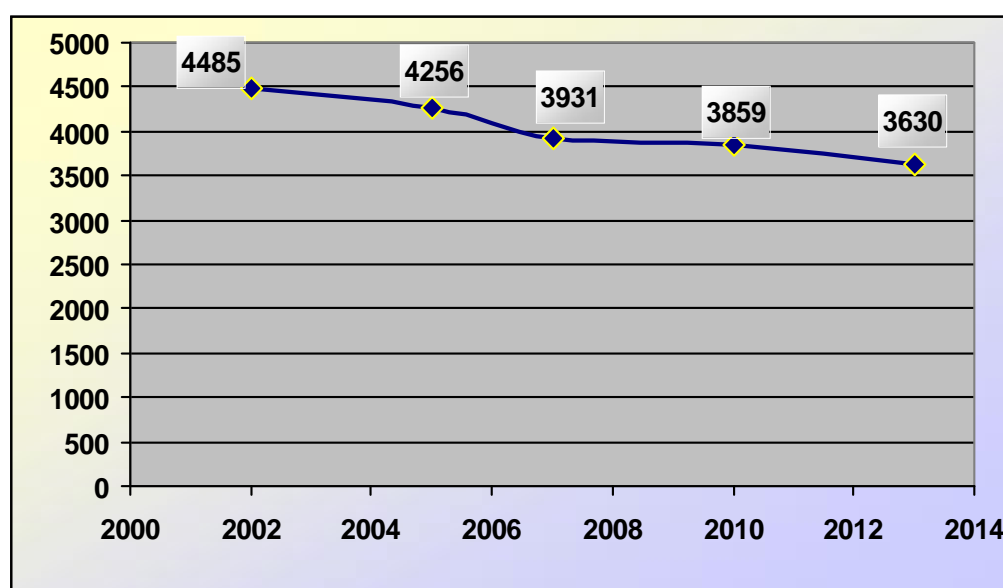
The number of small farms, who used an agricultural area of up to 1 hectare decreased in 2013 compared to 2010 by about 76,000 farms or 3.8%, those still holding a very important share, of 54.5% from the total. To the decrease in the number of small

farms has contributed the number of those who used an agricultural area less than 0.1 hectares, which has a share of about 11% from total farms with agricultural area.

By size classes of utilized agricultural area, in 2013, farm structure was different both in number and in terms of utilized agricultural area. So, the farms under one hectare, although they accounted for 54.5% from the total, have used only 5% from utilized agricultural area.

Farms with sizes between 1 and 5 hectares have weights closer both in number and in size (37.5% from total and 23.5% from utilized agricultural area) and large agricultural farms, over 50 hectare, though with a small share (0.6%) in terms of number, they held more than 52.1% from the utilized agricultural area.

From the point of view of way of holding utilized agricultural area, in 2013, the most important shares have been owned the areas in propriety (61.4%) and those taken into lease (27.4%), without significant changes compared to 2010.



**Figure 1. Evolution agricultural holdings**

At the European Union's level, Romania holds 7,5% from the utilized agricultural area being overtaken by France with 27,7 million hectares (15,9%), Spain, with 23,30 million hectares (13,4%), UK – 17,32 million hectares (9,9%), Germany – 16,69 million hectares (9,6%) and Poland – 14,40 million hectares (8,3%).

In the year 2013, from the total number of agricultural holdings from the European Union, about one third (33,5%) are registered in Romania, namely 3,63 million, decreasing compared to 2010 with 6%.

From the data presented in the table 2, shows the fact that the average size of an agricultural holding in the UK was 92,3 ha, six times higher than the EU-28 average in 2013, and the average size of agricultural holdings from Czech Republic was even higher, 133,0 hectares, as a result of a very small number of large farms.

Table 2.

Agricultural holdings and utilized agricultural area in the EU Member States, 2013

Specification	Number of holdings			Utilized agricultural area			The average area per holdings, ha	
	tousands	Share UE - total	Changes 2013/2003	tousands	Share UE - total	Changes 2013/2003	2003	2013
<b>EU-28</b>	<b>10841,0</b>	<b>100 %</b>	<b>-27,5 %</b>	<b>174606,6</b>	<b>100 %</b>	<b>0,1 %</b>	<b>11,7</b>	<b>16,1</b>
Belgia	37,8	0,3	-31,3	1307,9	0,8	-6,2	25,4	34,6
Bulgaria	254,4	2,3	-61,8	4650,9	2,7	60,1	4,4	18,3
Cehia	26,3	0,2	-42,6	3491,5	2,0	-3,9	79,3	133,0
Denemarca	38,8	0,4	-20,1	2619,3	1,5	-1,5	54,7	67,5
Germania	285,0	2,6	-30,9	16699,6	9,6	-1,7	41,2	58,6
Estonia	19,2	0,2	-47,9	957,5	0,5	20,3	21,2	49,9
Irlanda	139,6	1,3	-2,9	4959,4	2,8	15,4	31,7	35,5
Grecia	709,5	6,5	-13,9	4856,8	2,8	22,4	4,8	6,8
Spania	965,0	8,9	-15,4	23300,2	13,4	-7,4	22,1	24,1
Franta	472,2	4,4	-23,1	27739,4	15,9	-0,2	45,3	58,7
Croatia	157,4	1,5	-	1571,2	0,9	-	-	10,0
Italia	1010,3	9,3	-48,6	12098,9	6,9	-7,8	6,7	12,0
Cipru	35,4	0,3	-21,7	109,3	0,1	-30,1	3,5	3,1
Letonia	81,8	0,8	-35,4	1877,7	1,1	26,1	11,8	23,0
Lituania	171,8	1,6	-36,5	2861,3	1,6	14,9	9,2	16,7
Luxemburg	2,1	0,0	-15,1	131,0	0,1	2,2	52,3	63,0
Ungaria	491,3	4,5	-36,5	4656,5	2,7	7,0	5,6	9,5
Malta	9,4	0,1	-14,8	10,9	0,0	0,8	1,0	1,2
Olanda	67,5	0,6	-21,1	1847,6	1,1	-8,0	23,5	27,4
Austria	140,4	1,3	-19,2	2726,9	1,6	-16,3	18,7	19,4
Polonia	1429,0	13,2	-34,2	14409,9	8,3	-0,1	6,6	10,1
Portugalia	264,4	2,4	-26,4	3641,6	2,1	-2,2	10,4	13,8
<b>Romania</b>	<b>3629,7</b>	<b>33,5</b>	<b>-19,1</b>	<b>13055,9</b>	<b>7,5</b>	<b>-6,3</b>	<b>3,1</b>	<b>3,6</b>
Slovenia	72,4	0,7	-6,2	485,8	0,3	-0,1	6,3	6,7
Slovacia	23,6	0,2	-67,1	1901,6	1,1	-11,0	29,8	80,7
Finlanda	54,4	0,5	-27,1	2284,4	1,3	1,7	29,9	42,0
Suedia	67,1	0,6	-1,1	3028,6	1,7	-3,1	46,1	45,1
Regatul Unit	185,2	1,7	-34,0	17327,0	9,9	7,6	57,4	93,6
Norvegia	43,7	-	-24,9	987,1	-	-5,1	17,9	22,6

Source: Eurostat, 2014

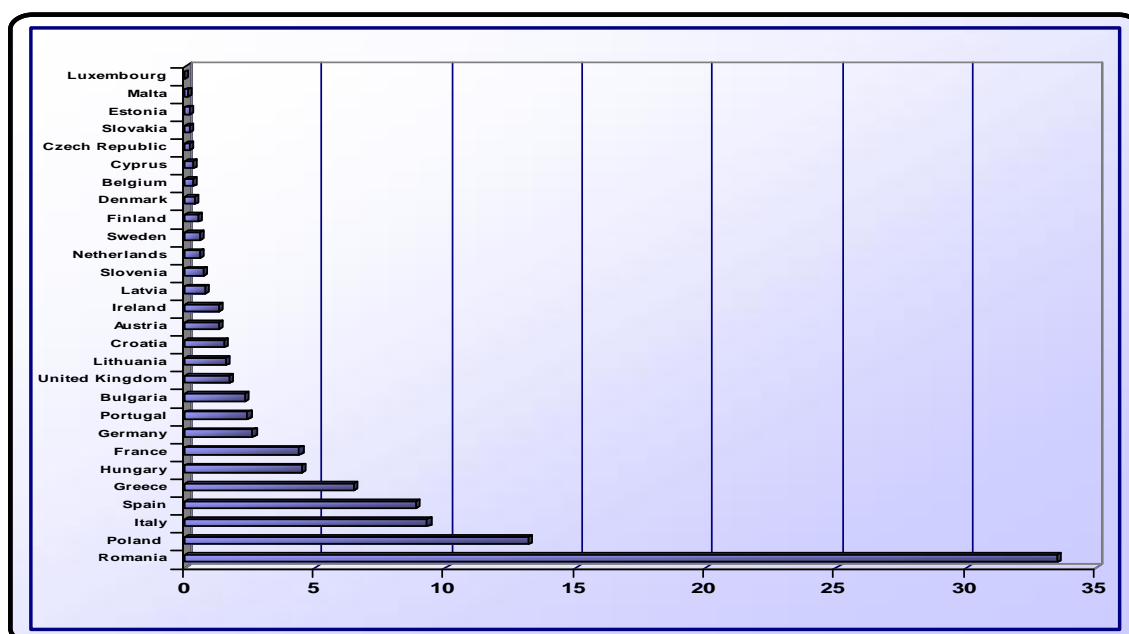


Figure 2. Agricultural holdings, by country, 2013, (% share of number of holdings in the EU-28)

The average size of an agricultural holding in Romania is 3,6 hectares, four times lower than the EU average, which stands at 16,1 hectares.

At the level of EU-28, almost a half from the lands used in agriculture is found in four Member States of the European Union, namely: France (15,9%), Spain (13,4%), the UK (9,8%) and Germany (9,6%).

In the year 2013, the utilized agricultural area found in ownership of agricultural holdings without legal personality represented 42,2% from total utilized agricultural area, while at agricultural holdings with legal personality this represented 19,2%.

**Table 3**  
**Utilized agricultural area, depending on the size of holding (SAU), by countries, 2013**

Specification	Total	Classes size							
		< 2	2-< 5	5-< 10	10-< 20	20-< 30	30-< 50	50-< 100	100
EU-28	174.351.010	4.301.640	7.810.520	9.368.890	12.851.610	9.323.600	15.429.640	27.605.440	87.424.210
Share of EU-28 (%)	100,0	2,5	4,5	5,4	7,4	5,3	8,8	15,8	50,1
Belgium	1.307.900	1.870	12.170	36.570	99.700	122.020	265.740	450.220	319.600
Bulgaria	4.650.940	100.990	82.930	73.280	92.980	75.980	130.600	203.680	3.890.500
Czech Republic	3.491.470	2.390	5.920	34.790	64.040	56.680	90.730	171.470	3.065.450
Denmark	2.619.340	170	3.100	55.770	98.500	97.610	168.730	387.500	1.807.950
Germany	16.699.580	12.090	32.580	325.770	886.190	718.320	1.660.310	3.549.990	9.514.330
Estonia	957.510	2.430	13.830	28.470	47.540	34.510	46.040	80.610	704.080
Ireland	4.959.450	2.770	26.810	118.300	510.140	607.410	1.177.130	1.365.060	1.151.830
Greece	4.856.780	295.870	551.940	584.440	616.800	357.080	411.870	349.740	1.689.050
Spain	23.300.220	280.730	738.150	997.130	1.543.320	1.256.020	2.044.400	3.501.660	12.938.810
France	27.739.430	47.530	185.980	293.570	636.720	777.240	1.877.790	6.751.050	17.169.550
Croatia	1.571.200	55.550	155.010	171.950	174.560	92.310	113.630	178.850	629.350
Italy	12.098.890	382.230	995.470	1.206.600	1.586.340	1.084.130	1.523.080	2.062.130	3.258.910
Cyprus	109.330	17.720	16.100	12.250	12.240	7.440	10.700	14.380	18.500
Latvia	1.877.720	14.690	54.530	116.980	219.630	129.390	159.040	187.120	996.340
Lithuania	2.861.250	35.980	215.860	268.870	279.900	157.280	215.720	353.580	1.334.060
Luxembourg	131.040	120	510	1.370	2.410	2.870	8.460	44.880	70.430
Hungary	4.656.520	115.000	133.860	179.070	280.500	201.970	287.250	458.280	3.000.580
Malta	10.880	5.080	3.410	1.670	490	150	-	-	-
Netherlands	1.847.570	7.520	33.600	67.840	146.110	171.360	431.330	620.620	369.190
Austria	2.726.890	17.160	90.650	178.250	437.650	407.630	561.710	586.040	447.800
Poland	14.409.870	438.070	1.441.990	2.180.570	2.882.140	1.496.390	1.533.760	1.393.180	3.043.780
Portugal	3.641.590	125.350	213.700	218.670	255.860	163.260	234.440	322.840	2.107.480
Romania	13.055.850	1.584.500	2.141.100	1.295.180	653.930	247.980	326.490	506.200	6.300.460
Slovenia	485.760	20.810	81.110	120.630	111.340	49.800	40.060	27.930	34.080
Slovakia	1.901.610	6.740	20.550	19.870	32.370	18.800	28.190	56.480	1.718.610
Finland	2.257.630	430	8.610	46.000	163.590	203.370	416.070	734.660	684.900
Sweden	3.028.620	430	25.450	112.560	193.690	161.610	285.890	576.890	1.672.100
United Kingdom	17.096.170	4.390	28.840	197.410	410.180	428.270	917.780	2.317.780	12.791.530
Norway	987.120	970	12.550	56.240	176.000	188.140	248.250	214.050	90.910

Source: Eurostat, *Agricultura Uniunii Europene, 2014*; [9]

In terms of the area owned more than half, 65,9%, is represented by the farms over 50 hectares and 7% from agricultural area is owned by holdings between 0-5 ha.

In the year 2013, 59,8% from the utilized agricultural area in the European Union was mostly used as arable land most part being cultivated with cereals, and 34,2% being occupied by pasture and permanent meadow.

## CONCLUSIONS

For a competitive agriculture, the government should facilitate the establishment of young farmers, in order to support the creation of jobs and to encourage younger generations to get involved in agricultural sector.

Romania holds 7,6% from the utilized agricultural area at the European Union's level, being overtaken by France with 27,8 million hectares (16%), Spain, with 23,75 million hectares (13,6%), United Kingdom - 16 88 million ha (9,7%), Germany – 16,7 million hectares (9,6%) and Poland – 14,4 million hectares (8,3%).

In the European Union the average size of a holding is 16,1 hectares and in Romania is 3,6 ha, fact which negatively influences the enhancement of agricultural and rural resources available, with adverse effects on rural economy and farmers' incomes.

In the agriculture's structure from U.E. were strong contrasts, on the one hand, there were a large number of very small farms 4,9 million (less than 2 hectares), and, on the other hand, a small number of very large farms 0,3 million (over 100 hectares) from 10,8 million existing farms in 2013.

## REFERENCES

1. **BRAD, I.**, 2007, Management i marketing, Editura Agroprint, Timi oara, pag. 87;
2. **BRAD, I., GHERMAN, R., M NESCU, CAMELIA, SÎRBULESCU, CLAUDIA, DINCU, ANA-MARIANA**, 2015, Study regarding the current situation of farms in Romania, Journal of Biotechnology, vol. 208S, Bucure ti;
3. **HURMUZACHE, TABITA, CORNELIA**, 2014, Diagnostic analysis of Timis county agriculture, Research Journal of Agricultural Science, Vol 46 (4);
4. **IANCU, T.**, 2015, Issues characterizing romanian agricultural production, Journal of Horticulture, Forestry and Biotechnology, ISSN: 2066-1797, Vol 18 (3);
5. **SÎRBULESCU, CLAUDIA, PÎRVULESCU, LUMINI A, IANCU, T.**, 2015, The financial resources of agriculture, Lucr ri tiin ifice, Management Agricol, seria I, volumul XVII (3), Timi oara;
6. **STANCIU, S.**, 2012, Economic policies of the European Union in 2012, according to legal acts in force, , Lucr ri tiin ifice, Management Agricol, seria I, volumul XIV (3), Timi oara;
7. \*\*\* - Ancheta structural , 2013;
8. \*\*\* - INS, Comunicat de pres nr. 308 din 15 decembrie 2014;
9. [http://ec.europa.eu/eurostat/statistics\\_explained/index.php/Farm\\_structure\\_survey\\_2013\\_-\\_main\\_results#Agricultural\\_holdings](http://ec.europa.eu/eurostat/statistics_explained/index.php/Farm_structure_survey_2013_-_main_results#Agricultural_holdings);