

TRENDS IN THE DEVELOPMENT OF AGRICULTURE IN OLT COUNTY

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Abstract

The Olt County occupies a territory that is in a majority proportion intended for areas under cultivation, agriculture is one of the priority activity in this area. This paper analysed the main indicators of agriculture and the tendency manifested along the period from 2000 to 2014. Among the indicators analysed are the land fund of the County with the study of the evolution of the utilized agricultural area and arable area, the main crops and yields of these crops, the holdings endowment with machinery and agricultural equipment, the livestock devolving to 100 hectares, the active population from agriculture and the agricultural value production by sectors of activity. All these data have been analysed as physical size, value of the tournament which it occupies within the County, and in their evolution. The tendency of these indicators was assessed through the annual rhythm of growth and using polynomial equations of degree two and three. There were large variations over the period analysed, for most of the indicators analysed.

Key words: agriculture, land fund, areas under cultivation, average yields, average annual rate of increase, Olt County, livestock production

INTRODUCTION

The agriculture represents an area of prime importance in Romania, through the contribution of the national economy and its social vital role. With a contribution of 6.7% to gross value added (GVA) national [9], reported in the year 2010, agriculture has always played an important role in the economy.

The Olt County agriculture enjoys favorable conditions in terms of climate, landform and soil. Through the configuration of the relief from the northern part of the County, has a climate with a more humid tint, in the southern part being more arid. The mean monthly air temperature after the weather station in territory are 11.3 °C at Caracal and 10.9 °C at Slatina, values closely linked to the general conditions of this area where continental climate predominates. The rainfall ranges from < 500 mm in the South-Western part of the County to over 600 mm in the northern cities of the Getic Tableland [10]. As a strategy, the Landscaping Plan for Olt County, with a view to 2025, it proposes greater emphasis on diversification, increasing

agricultural holdings and ensuring superior conditions for plant growth (irrigation, curtains and massive forestry) [7].

MATERIALS AND METHODS

As statistical indicators there were calculated: the average on certain time periods, indicators of comparison with a fixed base and chain base and annual growth rhythm [4]

$= r_{2000-2012} = 12 \sqrt{\prod (p_1/p_0) - 1}$; where:

$\prod p_1/p_0$ = the indicators in the chain product during the analyzed period.

For the mean square deviation or the standard deviation (σ) is calculated as a square average from the deviations from all elements of the series from their average [11]

The mean square deviation is a basic indicator, which is used for the variation analysis, and also to estimating the errors of selection in the calculation of the correlation.

Coefficient of variation (ν) shall be calculated as a ratio between the standard deviation and arithmetic average. It is expressed as a percentage: $\nu = \frac{\sigma}{\bar{x}} \cdot 100$

The significance . As the value of v is close to zero so the variation is weaker, the collectivity is more homogeneous, with a high degree of representativeness. The higher the value of v is greater than the variation is more intense, the collectivity is more heterogeneous, and has a low level of significance.

It is estimated that at a coefficient over 35-40%, the average is no longer representative, and the data should be separated in a series of components, groups, depending on the variation of another grouping feature.

One of the methods most used in finding out the trend, is the adjustment of the data series. Through the adjustment operation, we obtain calculated chronological series, highlighting the trend of development and which replaces the empirical series.

A widely used method is by adjusting with an equation with respect to time: linear, $Y = a + bt$; two degree, $Y = a + bt + ct^2$; third degree, $Y = a + bt + ct^2 + dt^3$ etc. As for a correlation, for regression function parameters is needed

for the adjustment of the series the appliance of the method of least squares:

$$\sum (y_i - Y_{ti})^2 = \min[2].$$

The data from this study have been extracted from the Statistical Yearbook, published by INSSE during 1990-2014[5].

RESULTS AND DISCUSSIONS

The trend in use of land fund for the period 2000-2014

The total agricultural area of South-West Oltenia Region represents an area of 1,820.1 hectares in 2000, 1,802.7 hectares in 2007 and by 1,796 thousand ha in the year 2014, with decreases of 23.5 thousand ha-vis 2000 and 6.1 thousand hectares in relation to 2007. The Olt County held in 2014, an area of 436.5 hectares, i.e. 24.2% of the land area of the region South-West Oltenia.

For the period 2000-2014 agricultural area decreased by 5.2 thousand hectares by 2007 and 1.7 thousand hectares with relation to 2007 (Table 1).

Table 1. The structure of land use of the Land Fund, in the County of Olt, period 2000-2014

How to use	Region	2000		2007		2014		2007/2000 (%)	2014/2007 (%)
		thousand hectares	%	thousand hectares	%	thousand hectares	%	%	%
Total	Southwest Reg	2,921.2	100.0	2,921.2	100.0	2,921.2	100.0	0.000	0.000
	OLT	549.8	100.0	549.8	100.0	549.8	100.0	0.000	0.000
Agricola	Southwest Reg	1,820.1	62.3	1,802.7	61.7	1,796.6	61.5	-0.594	-0.209
	OLT	440.0	80.0	434.8	79.1	436.5	79.4	-0.940	0.304
Arable	Southwest Reg	1,247.5	42.7	1,252.8	42.9	1,251.9	42.9	0.179	-0.030
	OLT	385.2	70.1	388.5	70.7	390.3	71.0	0.599	0.337
Pasture	Southwest Reg	379.7	13.0	380.4	13.0	377.9	12.9	0.024	-0.086
	OLT	34.8	6.3	31.8	5.8	33.0	6.0	-0.552	0.228
Meadow	Southwest Reg	86.2	2.9	88.0	3.0	89.1	3.1	0.063	0.039
	OLT	0.8	0.1	0.5	0.1	0.6	0.1	-0.045	0.005
Vineyards and wine-growing nurseries	Southwest Reg	51.1	1.7	38.8	1.3	38.0	1.3	-0.421	-0.027
	OLT	9.6	1.8	7.6	1.4	7.5	1.4	-0.365	-0.031
Orchards and nurseries	Southwest Reg	55.7	1.9	42.8	1.5	39.7	1.4	-0.441	0.105-
	OLT	9.6	1.7	6.4	1.2	5.1	0.9	-0.577	-0.236
Non-agricultural land	Southwest Reg	1,101.1	37.7	1,118.4	38.3	1,124.5	38.5	0.594	0.209
	OLT	109.8	20.0	115.0	20.9	113.3	20.6	0.940	-0.304

In the Land Fund structure, the agricultural area represents 80% in 2000 and 79.4% in 2014, with 17.7% and 17.9% respectively of the share occupied in the region.

As the educational level of the respondents is concerned it was found that the majority of those with secondary education (high school) with a ratio of 71.4%, followed by those with

graduate studies (college / university) with a ratio of 22.8 %, finding at the opposite pole respondents having postgraduate studies, 4.9%, as well as those with primary education (middle school) with 0.8% (Table 2).

The arable area of the County was of 385.2 thousand hectares (70,1%) in 2000 and 390.3 thousand ha (71%) in 2014, finding it an increase of 5.1 hectares. Towards the Development Region differences are in the share of 27.4% in 2000 and 28.1 % in 2014. Nationally, in 2011, the share of the arable surface was of 64,1%.

These agricultural areas increases were due to the decline in the same period, on areas of grassland with 1.8 thousand ha, meadows with 0.2 thousand hectares, vineyards with 2.1 thousand ha and orchards with 4.5 thousand hectares. (Table 1)

These developments demonstrate the agricultural character of the county but also the care for keeping arable land but also the

lack of investments for substituting the 6.6 thousand hectares of vineyards and fruit trees that have been cleared due to age or improper maintenance.

The cultivated areas with the main crops tendency for the period 2007-2014

Analyzing the size and evolution of cultivated areas in the Olt County during the period 2007-2014, we find the following:

-The area under cultivation had large oscillations from one year to another, which are measured by the coefficient of variation, and on the many cultures have very high values (52,26% beans, soya beans 118,3%, rapeseed 63.6% , tobacco 83.4%); high values (27,54% barley grain maize 22,54%); medium variation (sunflower 17,89%, wheat 13.3%); small values (5.75% cereal grains, total vegetables 4.26% vineyards 1,12% and orchards 7,79%)

Table 2. The cultivated surfaces evolution with the main crops in Olt County during the period 20 07-2014

No. crt	Main crops	2007	2010	2014	Min	Max	Average	Standard Deviation	The variation (%)
		HA	HA	HA	HA	HA	HA	HA	%
1	Total	292,908	336,851	347,000	292,908	351,401	331,331.0	19,664	5.93
2	Grain cereal	235,592	241,589	266,296	235,592	271,551	255,122.8	14,668	5.75
3	Wheat-total	135,983	143,087	141,652	102,202	150,006	132,281.8	17,704	13.38
4	Barley	8,980	14,189	13,807	5,865	15,906	11,602.1	3196	27.54
5	Oats	5,246	6,177	5,503	4,141	6,834	5,631.8	808	14.35
6	Grain maize	84,744	73,653	95,082	73,653	136,165	100,766.1	23,023	22.85
7	Shelling peas	161	480	462	161	1011	411.5	149	36.30
8	Beans	30	360	153	30	360	233.9	122	52.26
9	Sunflower	29,855	40,349	47,182	29,855	50,438	40,354.6	7,219	17.89
10	Rape	11,892	30,613	11,072	6,709	30,613	14,871.5	9,461	63.62
11	Soy beans	800	64	259	34	800	223.7	265	118.39
12	Sugar-beet	:	:	:	:	:	:	:	:
13	Tobacco	93	20	19	9	93	33.3	28	83.48
14	Vegetables-total	9,720	10,663	9,858	9,720	10,881	10,534.6	451	4.28
15	Orchards bearing	3,470	3,874	3,589	3,188	3,874	3,432.3	267	7.79
16	Vineyards and nurseries	7,634	7,634	7,465	7,445	7,634	7,563.88	84.73	1.12
17	Arable land at rest	13,474	50,787	8,929	4,079	50,787	21,499.4	18,518	86.13

In the Olt County structure, the share of the main crop is owned by cereal grains with 80.4% in 2007 and 71.7% in 2010 (Table 3).

Technical plants held over 17%, with sunflower seeds, which grow to 10.2% in 2007 and reaches 13.0% in 2014, and rapeseed which has a tendency to decrease from 4.1% in 2007 to 3.2% in 2014.

Vegetables have a downward trend from 3.3% (3,470 ha at 3,188 ha). At the country level, in 2011, of the 8.1 million hectares cultivated, 5.2 million hectares (64%) represents the cereals for grain, and 1.5 million hectares (18%) are oil plant[8].

Table 3. The cultivated surfaces structure evolution with the main crops in Olt County during the period 2007-2014

No. crt	Main crops	2007	2008	2009	2010	2011	2012	2013	2014
1	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	Cereal grains	80.4	77.6	79.2	71.7	76.5	77.0	77.3	76.7
3	Wheat-total	46.4	41.3	42.1	42.5	32.7	31.2	42.7	40.8
4	Barley	3.1	3.1	4.7	4.2	1.9	2.7	4.1	4.0
5	Oats	1.8	2.1	1.9	1.8	1.3	1.5	1.6	1.6
6	Grain maize	28.9	30.6	29.9	21.9	40.0	39.6	25.6	27.4
7	Shelling peas	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1
8	Beans	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0
9	Sunflower	10.2	11.3	9.1	12.0	11.9	14.7	14.2	13.6
10	Rape	4.1	5.0	5.7	9.1	4.5	2.0	2.5	3.2
11	Soy beans	0.27	0.07	0.01	0.02		0.03	0.02	0.07
12	Tobacco	0.03	0.00		0.01	0.01	0.02	0.01	0.01
13	Vegetables-total	3.3	3.2	3.2	3.2	3.5	3.1	3.1	2.8
14	Orchards bearing	1.2	1.0	1.0	1.2	1.0	1.0	1.0	1.0
15	Live bearing	2.6	2.3	2.3	2.3	2.4	2.2	2.2	2.2
16	Arable land at rest	4.6	8.4	10.1	15.1	7.2	1.2	3.0	2.6

Overall, the trend of cultivated areas (table 4), expressed through the annual increase for three distinct periods 1990-1999, 2000-2006 and 2007-2014, but also the entire period 1990-2014, shows some features:

- in the first period, from 1990 to 1999, are noted significant declines for beans (-18.4%), barley (-10.4%), soybeans (23.4 percent), sugar beet (-25.6)
 - increase in Sunflower (10.3%), rape (28.9%);

Table 4. The cultivated areas rate trend evolution in the County of Olt, for the period 1990 to 2014

No crt	Main crops	Rate 1990-1999	Rate 2000-2006	Rate 2007-2014	Rate 1990-2014
		%	%	%	%
1	Total	-0.75	-1.28	2.45	-0.49
2	Cereals for grain	0.43	-0.30	1.77	0.23
3	Wheat-total	1.09	2.06	0.59	1.47
4	Barley	-10.45	-6.02	6.34	-3.79
5	Oats	19.64	4.67	0.69	8.82
6	Grain maize	1.97	-2.61	1.66	-0.73
7	Shelling peas	-10.99	-22.43	16.25	-5.93
8	Beans	-18.42	-4.06	26.21	-11.70
9	Sunflower	10.32	-3.99	6.76	2.77
10	Rape	28.98	-1.51	-1.02	12.47
11	Soy beans	-23.42	-0.02	-26.71	-14.94
12	Sugar-beet	-25.65	-27.50	:	-49.78
13	Tobacco	-2.57	-24.45	-37.96	
14	Vegetables-total	-2.38	4.74	0.20	-0.69
15	Orchards bearing	-3.13	-12.89	0.48	-4.08
16	Vineyards and nurseries		-3.90	-0.32	-1.81
17	Arable land at rest	44.77	15.56	-5.71	-1.95

- in the second period, 2000-2006, are dropping further areas of beans, peas, sugar beet, tobacco, orchards, shelling peas, barley crop, labour-intensive crops and cultures for the production of feed;

- in the third period, 2007-2014, reductions in the areas are in tobacco and sugar beets, which are actually removed from the culture;

- throughout this period it is found important modifications of structures by increasing the areas in which mechanization is very large, for intensive consuming nutrients from the

soil crop, the removal of the crop of sugar beet and tobacco.

Trends in equipping the farms with tractors and agricultural machinery, in the County of Olt, 1990 to 2014

Between 1990-2010, Olt County in the number of tractors and agricultural machinery:

- has increased in physical tractors with 140.3% (4,744 PCs at 6,658 PCs); plows for tractor with 186,7% (3,307 to 6,174 PCs) and for the mechanical seeders 226,9% (from 1,686 to 3,825 PCs);

Table 5. The tractors and agricultural machinery number evolution in Olt County, for the period 1990-2014

No crt	Agricultural machinery	1990	2000	2010	2014			
		No	No	No	No	2010 (%)	/2000 (%)	/1990 (%)
1	Physical tractors	4,744	5,533	6,221	6,658	107.0	120.3	140.3
2	Plows for tractor	3,307	4,642	5,271	6,174	117.1	133.0	186.7
3	Mechanical cultivators	1,472	780	1,016	616	60.6	79.0	41.8
4	Mechanical seeders	1,686	2,981	3,531	3,825	108.3	128.3	226.9
5	Spraying machines and dusty with mechanical traction	542	105	34	39	114.7	37.1	7.2
6	Self-propelled combine harvesting grain	1,931	1,201	1,274	1,318	103.5	109.7	68.3
7	Self-propelled combine harvesting forage	186	27	2	5	250.0	18.5	2.7
8	Combine and machinery for harvesting potatoes	20	5	2	2	100.0	40.0	10.0
9	Baling presses for straw and hay	890	166	164	280	170.7	168.7	31.5

- it dropped to all other machines. We note the decrease of machinery for fodder and potato culture.

At self-propelled combines for grain harvester is found a decrease in at 68%, that decrease is offset by the productivity by several times greater of the current machines than those of 1990.

Trends in the structure of agricultural holdings in Olt County.

Within the County of Olt, it is considered that in the year 2012, there were a number of holdings of 90,170[6].

Analyzing the distribution by size classes, it is found that 69.85 % were under 5 ha, and possessed 43.85% of the area, 28.47% of holdings were between 5 and 10 ha and wielded 49.08% of surface and 1.68% of holdings of over 10 hectares of the area which possessed 7.07 % of the agricultural area (Table 6).

Table 6. The agricultural holdings structure in Romania , depending on the size of the agricultural holdings, in 2012

Area per holding	UM	Agricultural area		No. holdings		Sur. per holding	
		HA	%	No	%	ha/holding	from the average
< 3 ha	No	74,695	18.15	35,842	39.75	2.08	45.67
3-5 ha	No	105,727	25.69	27,140	30.10	3.90	85.37
5-7 ha	No	77,501	18.84	12,842	14.24	6.03	132.25
7-10 ha	No	66,509	16.16	7,909	8.77	8.41	184.28
10-15 ha	No	57,935	14.08	4,919	5.46	11.78	258.10
> 15 ha	No	29,105	7.07	1,518	1.68	19.17	420.16
Total	No	411,472	100.00	90,170	100.00	4.56	100.00

The share of agricultural holdings under 5 ha was 93.13% while at the EU level was of 69.3%, the share of holdings ranging between 5 and 10 ha, was in our country of 4.73% and EU-wide by 10.9 percent, while the holdings of over 10 hectares, were in our country of 2.14%, while in the EU were 19.8%[4].

The average production on ha evolution for the main crops, in Olt County during the period 2007-2014

The period under review is characterized by 2007, where unfavorable conditions have made the average yield from all cultures have a critical level, the average production being around 700kg/ha.

In the Olt County in 2011, the average grain production reaches a record-3,485 kg/ha, that

to be exceeded in the year 2015 with 3,535 kg/ha. We highlight the average production of grain maize of 4,384 kg/ha in 2010 and 4,474 kg/ha in 2013. (Table 7).

The tendency for the animal production development.

For the period 2007-2017, in Olt County, the livestock have had big oscillations and decreases in all species, which are evidenced by negative annual rhythms.

Thus in cattle and buffalos, cows and heifers decreased 10% annually, which occurred as the herds cows would be reduced to 18.1 head to 100 hectares in 2007 to 8.2 heads to 100 ha in 2014 (Table 8).

Table 7. Evolution of the average production per hectare, for the main crops in the Olt County during the period 2007-2014

Main crops	2007	2010	2014	Min	Max	Average	Standard Deviation	Variation (%)	Annual rate
Cereal grains	723	2840	3545	723	3545	2678.6	949	35.42	25.50
Wheat-total	832	2143	3299	832	3370	2570.6	836	32.54	21.75
Barley	730	2297	3132	730	3183	2444.3	789	32.28	23.13
Barley	722	2366	3208	722	3451	2579.1	870	33.75	23.75
Grain maize	531	4384	4112	531	4474	3037.5	1572	51.74	33.97
Sunflower	408	1689	2177	408	2177	1490.3	531	35.63	27.02
Rape	852	1667	2513	852	2513	1570.9	489	31.13	16.71
Soy beans	233	984	2097	233	2097	1162.6	594	51.05	36.87

Table 8 number of animals Evolution payable at 100 ha in Olt County during the period 2007-2014

Categories of animals	MU	2007	2010	2014	Min	Max	Average	Standard Deviation	Variation (%)	Annual rate
Cattle	No	18.1	7.7	8.2	7.7	18.1	10.7	3.9	36.60	-10.69
Buffalos and cows, heifers	No	12.8	5.7	5.8	5.4	12.8	7.5	2.7	36.53	-10.69
Swine	No	67.2	47.4	50.4	47.4	67.2	53.7	6.5	12.06	-4.03
Breeding sows	No	4.4	3	3.1	2.1	4.4	3.3	0.8	24.51	-4.88
Sheep and goats	No	51.8	34.3	41.1	34.3	51.8	41.8	5.8	13.91	-3.25
Sheep, ewe lambs and goats	No	47	31.9	36.2	31.9	47	37.4	5.0	13.39	-3.66

In swine, the herds to 100 ha of land dropped from 67.2 heads in 2007 to 50.4 heads in 2014.

The decrease in sheep was from 51.8 heads/100 ha in 2007 to 41.1 heads in year 2014.

The same rhythms of very large declines we can note in animal productions that were made during this period. So milk production decreased from 1,800 thousands hl, in 2007, at 1,028 thousand hl, in 2014 (annual rate 77.7%), production of eggs from 318.9 mil PCs in 2007 to 210 million PCs in 2014 (-5.8% rate).

Table 9. The evolution of main livestock productions in the Olt County during the period 2007-2014

Animal production	UM	2007	2010	2014	Min	Max	Average	Standard Deviation	Variation (%)	Annual rate
The milk production (including calves consumption)	thousand hl	1,800	1,284	1,028	1,028	1,800	1,352.2	845.0	62.5	-7.7
The wool production	to	322.3	230	253	230	322	258.2	80.8	31.3	-3.4
The eggs production	MIL PCs	318.9	233	210	210	319	243.1	147.4	60.6	-5.8
The extracted honey production	to	606.6	769	368	368	769	601.5	284.9	47.4	-6.9

Even at the production of honey is found a decrease from 606.6 tons in 2007 at 368 tons in 2014 (-6.9% rate) (Table 9).

Trends concerning the evolution of the active labor force in agriculture, Olt County, during the 2008-2014

In the Olt County, the occupied population in agricultural activities during the period 2008

to 2014, is between 48.6% in 2010 and 44.9% in 2008, compared to about 19% [9] of the total working population-wide country (Table 10).

The trend of labor used in agriculture, adjusted with a polynomial of degree two, presents a maximum in the years 2010 and 2011, and a decrease in the last three years (Table 10, Fig. 1)

Table 10. The size and share evolution of the occupied population in agricultural activities in Olt County during the 2008-2014

Activities	UM	2008	2009	2010	2011	2012	2013	2014
Total	thousand persons	169.3	161	161.6	162.6	167.4	163.5	160.8
Agriculture, forestry and fishing	thousand persons	76	76.3	78.6	78.2	80.4	76.6	74.6
	Towards 2007 (%)	100.0	100.4	103.4	102.9	105.8	100.8	98.2
	Share of total (%)	44.9	47.4	48.6	48.1	48.0	46.9	46.4

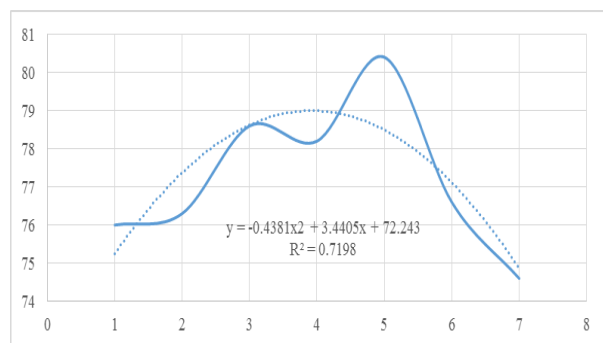


Fig. 1. The active population trend from agriculture, forestry and fishery , Olt Conty 2008-2014(th pers.)

Towards other EU countries the gap is wider and where the EU- 27 average is 4.7% and for the new Member States (e.g. Poland: 10.1%; Hungary: 5.5%; Bulgaria: 14.7%), not

to mention about countries like France (2.6%), UK (1.9%) or Germany (1.8%). This is a first indication of the low level of labor productivity and unemployment masked existing in the sector.

Trends on the development of agricultural production in terms of value, by branch of activity in Olt County during the period 2007-2013

The value of agricultural production for the period 2007-2014, in the County of Olt, presents an increase from 1,072.8 million lei in 2007 to 2,344.4 million lei, in 2013 (increase of 218 percent).

Table 11. Developments in agricultural production value, according to branches of production in Olt County during the period 2007-2013

Agricultural branches	UM	2007	2008	2009	2010	2011	2012	2013
Total	MIL lei	1,072.8	1,931.7	1,779.9	1,875.6	2,315.8	1,981.8	2,344.4
	%	100.0	180.1	165.9	174.8	215.9	184.7	218.5
Vegetable production	MIL lei	549.3	1,322.4	1,174.5	1,348.3	1,756.2	1,384.6	1,789.0
	%	100.0	240.8	213.8	245.5	319.7	252.1	325.7
Animal	MIL lei	515.9	600.9	593.9	523.4	557.0	592.3	545.8
	%	100.0	116.5	115.1	101.5	108.0	114.8	105.8
Agricultural services	MIL lei	7.7	8.4	11.4	3.8	2.6	4.9	9.6
	%	100.0	109.8	149.0	49.9	33.4	64.3	124.7

The vegetal production value presents a growth from 549.3 million lei in 2007 to 1,384.6 million lei in 2013 (325,7%) and livestock production from 515.9 million lei in 2007 to 592.3 million lei in 2013 (105.8%). Agricultural services in the value expression, also an increase from 7.7 million lei in 2007 at 9.6 million lei in 2013 (124,7%).

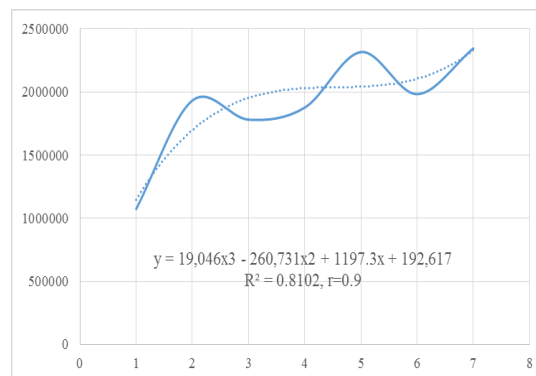


Fig 2. The total value production trend, in Olt County, 2007-2013(th. lei)

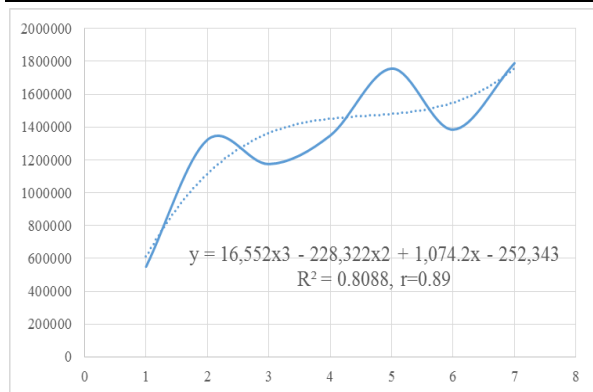


Fig.3. The vegetal value production trend, in Olt County, 2007-2013(th. lei)

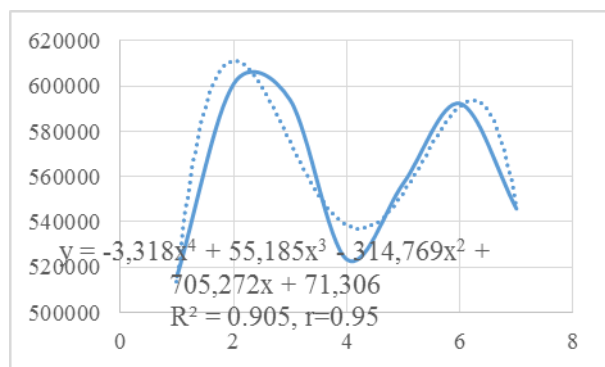


Fig 4. The animal value production trend, in Olt County, 2007-2013(th. lei)

Table 12. The agricultural production value by branches evolution, in the County of Olt, during the period 2007-2013

Agricultural branches	2007	2008	2009	2010	2011	2012	2013
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Vegetable production	51.2	68.5	66.0	71.9	75.8	69.9	76.3
Animal	48.1	31.1	33.4	27.9	24.1	29.9	23.3
Agricultural services	0.7	0.4	0.6	0.2	0.1	0.2	0.4

At the country level, the vegetal production sector share is predominant, holding, in 2011, a share of 70.8% from the total value of production, towards 28.5% represents by the livestock production sector and only 0.7% for agricultural services. In other countries, this share is lower. Towards 2012, in comparison, the share of crop production in total agricultural output value was 69,8% in Bulgaria, 66,6% in Hungary, respectively 51.6% in Poland. In France the vegetal production accounted 61,1%, in Germany 53,4%, while in the United Kingdom 41.8%[10].

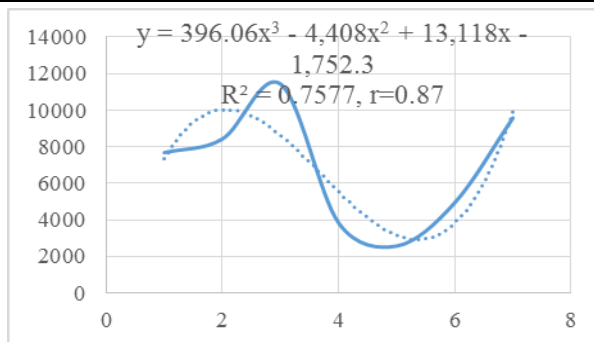


Fig 5. The agricultural services trend, in Olt County, 2007-2013(th. lei)

To plot the tendency of agricultural production by branches of activity during the period 2007-2013, we adjusted the data with the help of third order polynomial equations (Fig2, Fig 3, Fig 4, Fig 5), where it is found regular oscillations of the growth and decline of agricultural production in terms of value. The agricultural production structure for the period under review presents a strong increase in the share of vegetal production, from 51.2% in 2007 to 76.3% in 2013. This increase occurred entirely on account of the decrease in animal production, 48.1% in 2007 to 23.3% in 2013.

CONCLUSIONS

The Olt County occupies an area that represents nearly a quarter of the area of SW development Region, namely 24.2%, to the year 2014, while agriculture occupies a surface of 11.1% of the total. In relation to the trend of the use of agricultural land fund, Olt County area has undergone major declines of about 6.1 thousand hectares in 2014 as compared with 2007.

Mainly, the arable area is occupied by cereal crops, whose surface area has increased over the period studied, significant increase also for technical plants and vegetable areas.

Throughout the period it is found important modifications of structures by increasing the areas in which mechanization is very large, intensive crop nutrients from the soil, the removal of the crop of sugar beet and tobacco. A very good growth trend for Olt County agriculture is increasing the number of tractors and agricultural machinery, whose share in late 2014 is with over 40% more tractors, ploughs, cultivators and harvesters than 1990, and over 10% more than in the year 2010.

Regarding the structure of farms in relation to size, in the year 2012, over two-thirds are holding less than 5 ha and only 1.68% of the total 90170 holdings have an area over 15 hectares.

Worrying is the fact that in relation to the livestock sector we have decreases for all livestock species, of which the deepest annual drop is noted in cattle.

The large Share of those employed in the agricultural sector over 44% of the total active population, compared with the level in EU countries is a first indication of the low level of labor productivity and unemployment masked existing in the sector.

The agricultural production value has experienced upward trends, however, for the period 2007-2013, the most important being observed in agricultural vegetal production, where increases are over 200% in the last year towards the reference year.

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