

## SOME CONSIDERATIONS REGARDING THE OIL SEED OFFER IN OLT COUNTY (2015 – 2017)

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### **Abstract**

*Within the paper, an attempt is made to present an image regarding the evolution of the oil seed supply, in the Olt County, for the period 2015-2017. The processed information was extracted from a recognized database (www.insse.ro), highlighting the trends of establishment and evolution of the county's availability of seeds from species such as sunflower, rapeseed, soybeans etc. Olt County occupy the second place in the south-west Oltenia region. The cultivated area was 78,902.67 ha, the total production reached a level of 165,313.33 t, while the average production is characterized by a general level of 2,095 kg/ha.*

**Key words:** production, rapeseed, soybean, sunflower, surface

### **INTRODUCTION**

Olt County is situated in the south of Romania, along Olt river. The county held 2.3% of national territory (5,498 km<sup>2</sup>), places the county on the 22nd place at national level as surface [12].

The production of oil crops, in general, is important in relation to food, industrial, agro technical-technological, as a source of profit or as an article for export [7].

Oil seed production is an important activity of the Romanian agriculture, which ensures the domestic need and an important export article [8].

The sunflower is the main oil crop [10]. The surface cultivated with the sunflower, is variable, based on available information [9].

From the sunflower seed production point of view, Romania occupied the first place in the European Union [4].

The rapeseed is a plant that prefers the temperate climate that has mild winters and cool and summers, being an important world's species plant for oil, cultivated for its oil rich seeds [2].

The Romanian agricultural producers consider soy as a viable solution for the future activity [1]. This aspect is manifested in the context in which Romania registered a negative trade balance for this product [5]. The role played by soy in human nutrition is highlighted by the fact that it is one of the most important assortments of food oil [3]. Soybean seeds are distinguished by the protein having weaker emulsifying properties than other relative flexible proteins [6].

The purpose of the paper is to emphasize the importance of Olt county at the regional and national level, as regards the primary supply of oilseeds.

### **MATERIALS AND METHODS**

The documentation, was elaborated using a credible database from national level (www.insse.ro). Analyzing the data, used time comparison method (dynamic series of 4 terms: 2015, 2016, 2017 and the average period) and space (reporting the county situation at regional and national levels).

The indicators presented refer to the cultivated area (ha), total production (t) and average yield (kg / ha).

## RESULTS AND DISCUSSIONS

Areas planted during the period 2015-2017 are shown in table 1 [11].

Table 1. Cultivated Area (ha)

Specification	Year						Average**	
	2015		2016		2017			
	Eff. (ha)*	Str. (%)**	Eff. (ha)*	Str. (%)**	Eff. (ha)*	Str. (%)**	Eff. (ha)	Str. (%)
Total oil plants	67,468	100.00	90,978	100.00	78,262	100.00	78,902.67	100.00
Sunflower	51,549	76.41	71,290	78.36	55,143	70.46	59,327.33	75.19
Rapeseed	15,153	22.46	17,325	19.04	21,536	27.52	18,004.67	22.82
Soya beans	608	0.90	2,270	2.50	1,576	2.01	1,484.67	1.88
Other oil plants**	158	0.23	93	0.10	7	0.01	86.00	0.11

\*<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 14.12.2018)

\*\* own determination

Year 2015 is characterized by a total area cultivated with oily plants of 67,468 ha, of which, the main species had weights of: 76.41% sunflower - 51,549 ha, 22.46% rapeseed - 15,153 ha, 0.90% soybean - 608 ha and 0.23% "other oil plants" - 158 ha.

If we analyze the situation of 2016, we find variable areas of oil plants, as follows: 93 ha "other oil plants", 2,270 ha - soybeans, 17,325 ha - rapeseed, 71,290 ha - sunflower. These areas have led to a total of 90,978 ha cultivated with oily plants, of which the following weights were registered: 0.10% "other oily plants", 2.50% soy beans, 19.04% rapeseed, 78.36% sunflower.

For 2017, at the county level, the total area cultivated with oil plants was 78,262 ha, of which the main species occupied: 70.46% sunflower - 55,143 ha, 27.52% rapeseed - 21,536 ha, 2.01% soybeans - 1,576 ha, 0.01% "other oil plants" - 7 ha.

The average of the analyzed period, shows at the county level, a total area cultivated with oil plants of 78,902.67 ha, of which the main oil species achieved: 0.11% "other oil plants" (86.0 ha); 1.88% soybeans (1,484.67 ha); 22.82% rapeseed (18,004.67 ha); 75.19% sunflower (59,327.33 ha).

Reported at national level, Olt County held: 5.84% of the area of sunflower, 4.82% of the area related to oil plants, 3.80% of the area

related to rapeseed culture and 1.06% of the area allocated to soybean culture. (Fig. 1).

Analyzing the situation of Olt County, at the level of the South-West Oltenia Region, they appeared variable contributions (in the main species) from 38.51% to 46.07% (for sunflower, soybean cultivated for grains (Fig. 1).

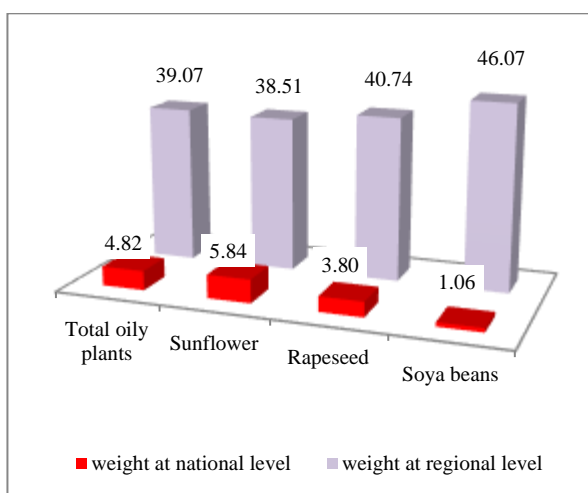


Fig. 1. The cultivated surface. The weight of Olt County at national and regional level - period average (%)

Source: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 15.12.2018)

The data for total production are presented in Table 2 [11].

Table 2. Total production (t)

Specification	Year						Average**	
	2015		2016		2017		Eff. (t)	Str. (%)
	Eff. (t)*	Str. (%)**	Eff. (t)*	Str. (%)**	Eff. (t)*	Str. (%)**		
Total oily plants	120,458	100.00	138,564	100.00	236,918	100.00	165,313.33	100.00
Sunflower	84,250	69.94	91,526	66.05	176,729	74.59	117,501.66	71.08
Rapeseed	35,379	29.37	43,681	31.53	56,831	23.99	45,297.00	27.40
Soya beans	736	0.61	3,317	2.39	3,348	1.41	2,467.00	1.49
Other oily plants**	93	0.08	40	0.03	10	0.01	47.67	0.03

\*<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 15.12.2018)

\*\* own calculation.

In 2015, from the county total of 120,458 t, it is observed that the main supplying crop was the sunflower with 84,250 t - 69.94% of the total, followed by the rapeseed with 35,379 t - 29.37%, the soybeans with a total production of 736 t - 0.61% and by "other oil plants" with 93 t - 0.08% of the total.

The year 2016 is noted by a county level of total oil seed production of 138,564 t, of which the component crops held weights, as follows: 66.05% sunflower - 91,526 t, 31.53% rapeseed - 43,681 t, 2.39% soy berries - 3,317 t, 0.03% "other oily plants" - 40 t.

If we analyze the situation of 2017, we notice that the total oil seed production - 236,918 t - was constituted by variable sequential contributions. Thus - in ascending order - the crops contributed: 10 t "other oily plants" - 0.01%, 3,348 t soybeans - 1.41%, 56,831 t rapeseed - 23.99% and 176,729 t sunflower - 74.59%.

Average of the period was achieved using the data presented above, which is characterized by a total county level of 165,313.33 t, whose structure was the following: 71.08% sunflower - 117,501.66 t; 27.40% rapeseed - 45,297.0 t; 1.49% soy beans - 2,467.0 t; 0.03% "other oil plants" - 47.67 t.

At national level, the weights was variable (main species) from 0.81% for soybean crop (being less than surface weight), up to 5.24% for sunflower culture (less than surface - Fig. 2).

Reported to the regional situation, Olt County obtained: 42.27% of soybean production, 39.20% of rapeseed production, 36.95% of

total oilseed production and 36.10% of sunflower (Fig. 2).

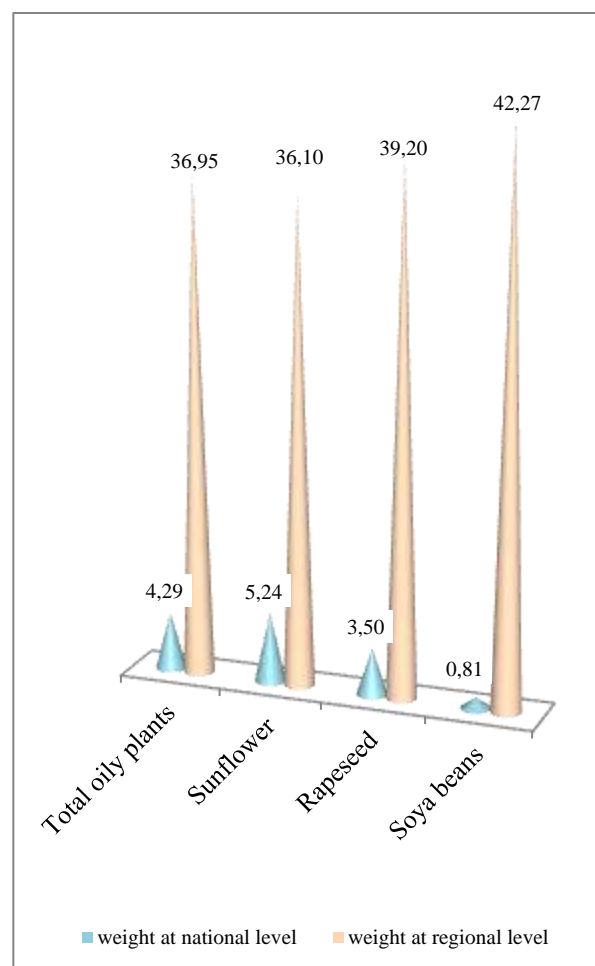


Fig. 2. Total production. The weight of Olt County at national and regional level - period average (%)

Source: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 15.12.2018)

Average production are shown in Table 3 [11].

Table 3. Average yield (kg/ha)

Specification	Year						Average**	
	2015		2016		2017		Eff. (kg/ha)	% compared to the total
	Eff. (kg/ha)*	% compared to the total**	Eff. (kg/ha)*	% compared to the total**	Eff. (kg/ha)*	% compared to the total**		
Total oily plants	1,785	100,00	1,523	100,00	3,027	100,00	2,095	100,00
Sunflower	1,634	91.54	1,284	84.31	3,205	105.88	1,981	94.56
Rapeseed	2,335	130.81	2,521	165.53	2,639	87.18	2,516	120.10
Soya beans	1,211	67.84	1,461	95.93	2,124	70.17	1,662	79.33
Other oily plants**	589	32.99	430	28.23	1,429	47.21	554	26.44

\*<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 15.12.2018)

\*\*own calculation.

In 2015, the county obtained a total average production of 1,785 kg / ha, compared to which- at the level of the component crops of the group - the situation was as follows: 1,634 kg / ha at sunflower (91.54% compared to the comparison term - the level indicator overall), 2,335 kg / ha for rapeseed (130.81%), 1,211 kg / ha for soybean cultivation (67.84%) and 589 kg / ha for "other oil plants" (32.99%).

The year 2016 registered an average county production of 1,523 kg / ha, against which are found positions of the oil crops as follows: 28.23% "other oil plants" - 430 kg / ha, 84.31% sunflower - 1,284 kg / ha, 95.93% soybeans - 1,461 kg / ha and 165.53% rapeseed - 2,521 kg / ha.

For the year 2017, at the county level variable yields were obtained from 1.429 kg / ha for "other oil plants" (-52.79% compared to the county level) up to 3,205 kg / ha for sunflower culture (+5.88%). The other crops, were positioned below the level of the indicator (3,027 kg / ha), as follows: rapeseed -12.82% (2,639kg / ha), soybeans -29.83% (2,124 kg / ha).

The average of the period shows an average production of 2,095 kg / ha, against which the positioning of the crops was the following: - 73.56% "other oil plants" - 554 kg / ha; - 20.67% soybeans - 1,662 kg / ha; -5.44% sunflower - 1,981 kg / ha; +20.10% rapeseed - 2,516 kg / ha.

Reported at the national level, Olt county has realized average productions per strictly subunit productive unit (from 76.73% in soybean to 92.81% for of rapeseed - Fig. 3).

Analyzing the Olt County situation, in regional context, one can see that it did not exceed the reporting period in any situation. The negative differences were 2.37, 5.42, 7.17 and 8.58% for rapeseed, general level, sunflower and soybean respectively (Fig. 3).

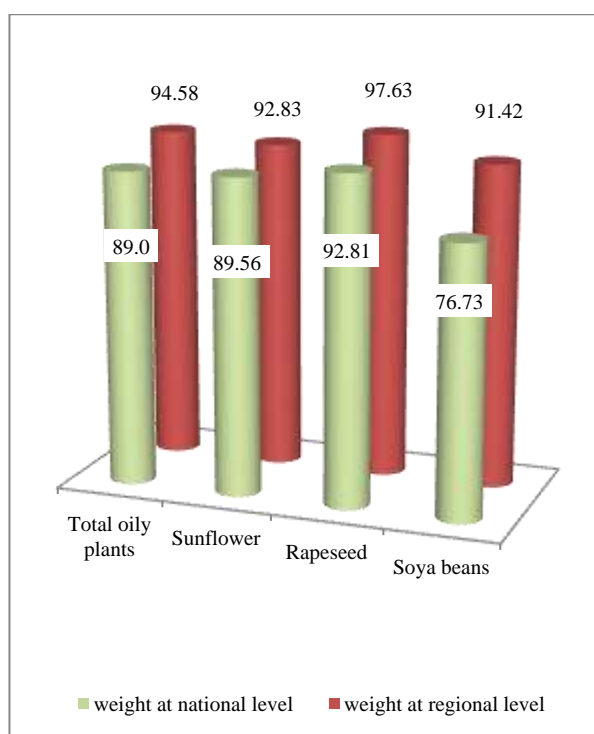


Fig. 3. Average production. Positioning of Olt county at national and regional level - period average (%)

Source:<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (Accessed on 15.12.2018)

## CONCLUSIONS

First of all, it is worth noting a fairly limited range of oil crops practiced, at the county

level: sunflower, rapeseed, soybean, and "other oil plants".

Regarding the cultivated area it is noted: within the total area of 78,902.67 ha the sunflower predominates (75.19%), followed at a considerable distance from rapeseed (22.82% weight); the indicator has evolved fluctuating, over time, for the entire cultivated area, an aspect that is manifested in most crops, with the exception of rapeseed and "other oil plants" which have registered ascending and descending evolutions respectively.

If we refer to the total production, the following aspects should be noted: the county obtains a total production of 165,313.33 t, to which the most contributions were made by the sunflower, followed by rapeseed, the rest of the crops not even reaching the 2% threshold; the indicator evolution was an ascending one (as opposed to the surface - non-uniform evolution). Only for "other oil plants" is a downward evolution.

Regarding the average production, we should point out: the general level of 2,095 kg / ha of the indicator, against which there are recorded rapids, as well as lower levels in sunflower, soybean and "other oil plants" respectively (in the last in this case the level is significantly lower than the county average); at general level, the indicator has evolved fluctuating, a situation that is manifested in most cultures, excepting rapeseed and soybeans (upward trends).

Olt County is an important producer of oilseeds at national and regional level, but this situation needs to be improved by increasing the productive performances (based on adequate cultures management).

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