

PRIMARY OFFER OF OIL SEEDS IN DOLJ COUNTY (2014-2016)

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ABSTRACT

Through its content, the work refers to the main oily plants grown in Dolj County for the analyzed interval (2014-2016).

Within the total surface area of 90,288 ha oily plants, sunflower (30.06%) predominates, followed by rapeseed at a large distance (14.67%).

The county has a total production of 173,802 t oily seeds, to which the most contributed were: sunflower (79.65% - less weight than the surface), followed by

rape (18.57% - bigger than in the case of the surface), the rest of the crops, not even having the percentage of 2%.

The average yield has a general level of 1.925 kg / ha, over which there are exceedances of rapeseed and soybeans, as well as lower levels in other oily plants, oil liner and sunflower respectively (in the latter case the level is close to the average county).

INTRODUCTION

The formation of the primary offer considers the following oily plants: sunflower, rapeseed, soybean, oil flax and "other oily plants". This approach was determined by the fact that the databases used refer to the mentioned crops but also presents the general situation of the culture group.

Sunflower is one of the most important sources of vegetable oil, being the most important oily plant in Romania and one of the most valuable oil plants in the world. Sunflower production is important for industry, forage, agrotechnical technology, export and source of profit.

The big rapeseed (Colza rapeseed or autumn rapeseed) is currently one of the world's most important oil species grown for its oil-rich seeds 42-48%, oil used in human food for the preparation of margarine but also in industry. The

autumn rapeseed for oil (primary and secondary production) is important as an industrial raw material, in animal feed and technologically.

Soybean production is of industrial, fodder and technological importance. Soybean is currently one of the most important agricultural plants for human, animal feed and as raw material for industry. This importance lies in the very chemical composition of grains and by-products, which impart a very high nutritional value.

Oil flax is important as industrial, fodder and technical feedstock. Seed oil is extracted with high siccative degree (iodine index, 168 - 192). Linseed oil, due to its water resistance and corrosive agents, has many uses in the paint and varnish industry, linoleums, mosses, soaps, printing inks, painting (for fixing pigments) etc.

METHOD AND MATERIAL

In general, the indicators used to assess agricultural production phenomena can be grouped into two categories -

according to the unit of measurement used: indicators in natural expression - area, average production per production

unit, total production, commodity production, etc.; indicators in value expression - average output per production unit, total production, cost of production, total profit, unit profit, unit profit, gross margin etc.

For the present work, the cultivated area (ha), the total production (t) and the average yield per production unit (kg / ha) were used as indicators. In

addition, structure indexes (%) were used for the cultivated area and total production, at the same time positioning of the average yields (%) - in crops - compared to the general situation of the product group. According to the classification made by the National Institute of Statistics in Romania, the group of oily plants includes: sunflower, rapeseed, soybean, oil flax, castor, etc.

RESULTS AND DISCUSSIONS

Table 1 shows the structure of the county surface cultivated with oily plants, both in general and in crops.

Table 1.

The cultivated area (2014-2016)

Specification	The year						Average **	
	2014		2015		2016		Eff. (ha)	Str. (%)
	Eff. (ha) *	Str. (%) **	Eff. (ha) *	Str. (%) **	Eff. (ha) *	Str. (%) **		
Total oily plants	75,857	100.00	83,206	100.00	111,801	100.00	90,288.00	100.00
Sunflower	67,224	88.62	67,560	81.19	91,007	81.40	75,263.67	83.36
Rapeseed	8,117	10.70	13,845	16.64	17,768	15.89	13,243.33	14.67
Soy beans	16	0.02	1,336	1.61	2,523	2.26	1,291.67	1.43
Flax for oil	77	0.10	143	0.17	20	0.02	80.00	0.09
Other oily plants **	423	0.56	322	0.39	483	0.43	409.33	0.45

<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AGR108A> (15.11.2017)

** own calculation

The year 2014 is characterized by a total area cultivated with oily plants of 75,857 ha, of which the main species have weighed 88,62% sunflower - 67,224 ha, 10,70% rapeseed - 8,117 ha, 0,56% "other oily plants" - 423 ha, 0.10% flax for oil - 77 ha and 0.02% soya beans - 16 ha.

If we analyze the situation in the year 2015, we find variable areas of oily plants, as follows: 143 ha flax for oil, 322 ha for "other oil plants", 1,336 ha for soya beans, 13,845 ha for rape, 67,560 ha for sunflower. These areas led to a total of 83,206 ha cultivated with oily plants, of which the following weights were recorded by species: 0.17% flax for oil, 0.39% "other oily plants", 1.61% soya beans, 16.64% rapeseed, 81.19% sunflower.

For the year 2016, the total area cultivated with oily plants was 111,801 ha of which the main species occupied: 81.40% sunflower - 91,007 ha, 15.89% rapeseed - 17,768 ha, 2.26% soya beans - 2,523 ha, 0.43% "other oily plants" - 483ha, 0.02% flax for oil - 20 ha.

The average of the analyzed period shows at the county level a total area cultivated with oily plants of 90,288 ha, of which the main oil species have achieved: 0.09% flax for oil (80 ha), 0.45% "other oily plants" (409.33 ha) 1.43% soybean (1.291.67 ha), 14.67% rapeseed (13.243.33 ha), 83.36% sunflower (75,263.67 ha - fig. 1.).

Table 2 shows the structure of county oil seed production at both general and crop level.

In 2014, the county total was 167,532 tons, and the main crop supply was sunflower with 148,796 t - 88.82% of the total, followed by rapeseed with

18,207 t - 10.87%, "other oily plants" with 357 t - 0.21% , flax for oil 141 t - 0.08% and soy beans with a total production of 31 t - 0.02% from the total.

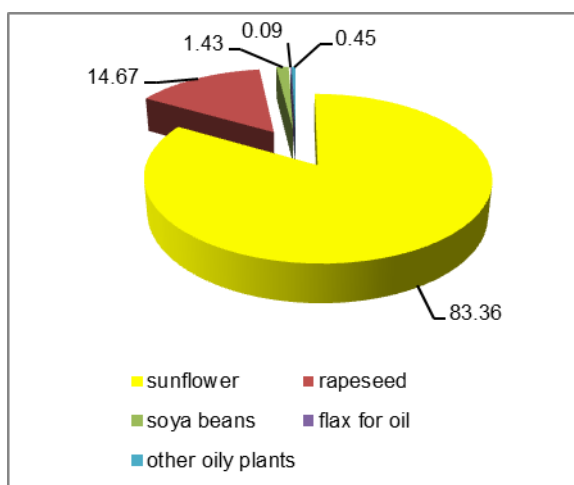


Fig. 1. The cultivated area. Structure - the average of the period (%)

Table 2.

Total production (2014-2016)

Specification	The year						Average**	
	2014		2015		2016		Eff. (t)	Str. (%)
	Eff. (t)	Str. (%)**	Eff. (t)	Str. (%)**	Eff. (t)	Str. (%)**		
Total oily plants	167,532	100.00	147,310	100.00	206,564	100.00	173,802.00	100.00
Sunflower	148,796	88.82	112,113	76.11	154,412	74.75	138,440.33	79.65
Rapeseed	18,207	10.87	32,336	21.95	46,277	22.40	32,273.33	18.57
Soy beans	31	0.02	2,533	1.72	4,994	2.42	2,519.34	1.45
Flax for oil	141	0.08	164	0.11	62	0.03	122.33	0.07
Other oily plants**	357	0.21	164	0.11	819	0.40	446.67	0.26

<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AGR109A> (15.11.2017)

own calculation

The year 2015 is marked by a county level of the total production of 147,310 t of oil seeds, from which, the following crops had the following weights: 76.11% sunflower - 112,113 t, 21.95% rapeseed - 32.336 t, 1.72% soybean - 2,533 t, 0.11% flax for oil and "other oily plants" - 164 t.

If we look at the situation in 2016, we can see that the total production of oily seeds - 206,564 t - was constituted by variable sequential contributions. Thus - in ascending order - the crops contributed: 62 tons flax for oil - 0.03% of the total, 819 t "other oily plants" - 0.40%, 4.994 t soya beans - 2.42%, 46.277 t

rapeseed - 22.40%, and 154.412 tons sunflower - 74.75%.

Based on the data presented above, the average of the period was made, which is characterized by a total county level of 173,802 t, whose structure (fig. 2) was as follows: 79.65% sunflower - 138,440.33 t; 18.57% rapeseed - 32,273.33 t; 1.45% soybeans - 2,519.34 t; 0.26% "other oily plants" - 446.67 t; 0.07% flax for oil - 122.33 t.

Table 3 shows the average production yield per production unit (kg / ha).

In 2014, the county obtained a total average production of 2,209 kg / ha, against which - at the level of the group

crops - the situation was as following: 2,213 kg / ha for sunflower (100.18% compared to the level of comparison - the general level of the indicator), 2.243 kg /

ha for rapeseed (101.54%), 1.938 kg / ha for soybean crops (87.73%), 1.831 kg / ha for flax for oil (82.89%) and 844 kg / other oily plants "(38.21%).

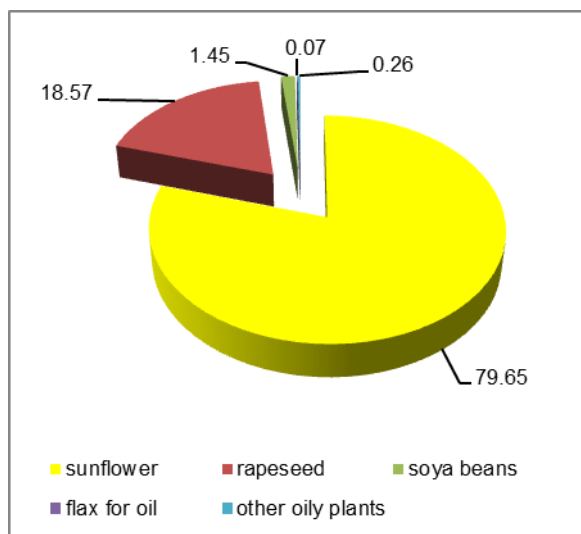


Fig. 2. Total production. Structure - average of the period (%)

Table 3.

Average production per hectare (2014-2016)

Specification	The year						Average **	
	2014		2015		2016		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	2,209	100.00	1,770	100.00	1,848	100.00	1,925	100.00
Sunflower	2,213	100.18	1,659	93.73	1,697	91.83	1,839	95.53
Rapeseed	2,243	101.54	2,336	131.98	2,605	140.96	2,437	126.60
Soy beans	1,938	87.73	1,896	107.12	1,979	107.09	1,951	101.35
Flax for oil	1,831	82.89	1,147	64.80	3,100	167.75	1,529	79.43
Other oily plants	844	38.21	509	28.76	1,696	91.77	1,091	56.68

<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AGR110A> (15.11.2017)

own calculation

The year 2015 recorded a county average yield of 1,770 kg / ha, compared to which there are found positionings of the oil crops like: 28.76% "other oil plants" - 509 kg / ha, 64.80% flax for oil - 1.147 kg / ha, 93.73% sunflower - 1.659 kg / ha, 107.12% soybean - 1.896 kg / ha and 131.98% rapeseed - 2.336 kg / ha.

For the year 2016, at the county level, variable average yields were obtained from 1,696 kg / ha in the case of "other oily plants" (-8.23% compared to the county general level) to 3,100 kg/ha in

the case of flax seed oil (+ 67.75%). The rest of the crops were positioned either below or above the overall indicator level (1,848 kg / ha), as follows: -8.17% sunflower (1,697 kg / ha); +7.09 and +40.96% soybean and rapeseed (1.979 and 2.605 kg / ha).

At the county level, the average of the period shows an average production of 1.925 kg / ha, of which the position of the crops was the following: -43.32% "other oil plants" - 1.091 kg / ha; -20.57% flax for oil - 1.529 kg / ha; -4.47%

sunflower - 1.839 kg / ha; + 1.35%
 beans - 1.951 kg / ha; + 26.60%

rapeseed - 2.437 kg / ha.

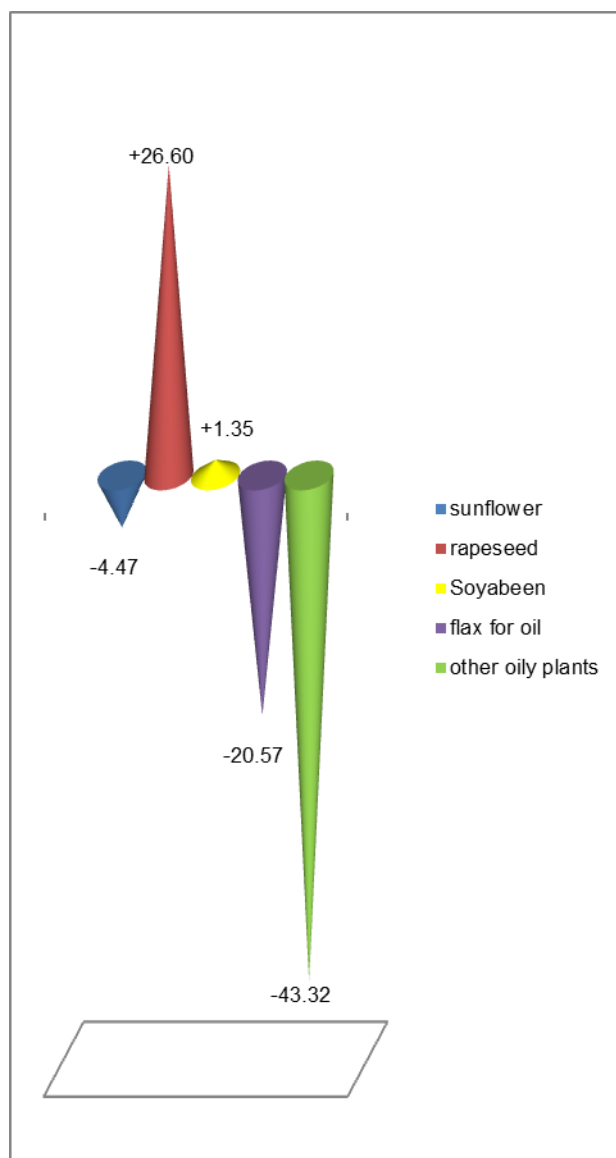


Fig. 3. Average production, position of crops relative to oily plants total=100%.
 – period average ($\pm\%$)

CONCLUSIONS

Starting from the information presented above, conclusions can be drawn regarding the offer of oily seeds in Dolj county.

First of all, it is worth mentioning a rather limited palette of oil cultures practiced at the county level: sunflower, rapeseed, soybean, flax for oil and "other oily plants".

Regarding the cultivated area it is noticeable:

- the indicator evolved in ascending time over the entire cultivated area, aspect which manifests in most cultures, except for the flax for oil and "other oily plants" that have registered uneven evolutions;

- at the national level Dolj County held: 7.40% of the area of sunflower, 5.84% of the oilseed area, 4.18% for the area cultivated with flax for oil, 3.23% of the surface area of the rapeseed crop

and 1.16% of the area allocated for soybean culture;

- analyzing the situation of Dolj County, in the context of the South-West Oltenia Region, it is observed that it held variable weights (for the main species) from 42.16% for rapeseed to 100% in case of flax for oil.

If we do not refer to total production, the following points should be noted:

- the evolution of the indicator was uneven (as opposed to surface - ascending evolution). Only for rapeseed and soybean there is an ascending trend;

- analyzing the situation of Dolj county at national level, it is observed that it held variable weights (for the main species) from 1.04% for soybean crops (less than the share of the area) to 6.91% for sunflower crops less than the share of the surface);

- in relation to the specific situation of the South-West Oltenia Region, Dolj County obtained: 100% of flax production for oil, 60.69% of soybean production, 53.33% of sunflower, 50.64% of total oil seed production and 41.07% of production of rapeseed.

In terms of average production, it is highlighted:

- on a general level, the indicator fluctuated, a situation that manifests in most cultures, except for rapeseed (ascending trend);

- reported at national level, Dolj County produced average outputs per unit of production strictly under unitary (from 89.04% overall to 93.75% in case of flax for oil);

- analyzing the situation of Dolj County in the context of the South-West Oltenia Region it is noticed that it has exceeded the reporting term for the general situation, the sunflower and the soybean, for the flax grown for oil the level is equal, and for the rapeseed the situation was sub-unitary.

Dolj County is a major producer of oily seeds at national and regional level, but this situation needs to be improved by increasing productivity on the productive unit through appropriate measures (capitalization of producers, improvement of professional training, initiation and implementation of forms of cooperation, etc.).

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