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THE TENDENCY CONCERNING THE EVOLUTION OF OILSEED MARKET IN ROMANIA

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ABSTRACT

Agriculture is the main branch of Romania's national economy, an important sector, assuring agro-food product for export, materials for the industry and also, food for population. In the growth a country, an important role plays the international trade because it express the capacity of providing certains services and to produce goods. Romania's agricultural production in 2016 compared to members states of the EU, places Romania, for both cultivated area and output for the sunflower crops, on the first place. Also, rapeseed production has recorded a continuous increasing trend in the analyzed period. The increased price is justified by demand/offer ratio. The main purpose of the paper was to analyze the foreign trade activity of Romania with oilseeds and the trends between 2007-2016. Were used statistical data referring to land surfaces sown with oilseeds, productions, the average yield per hectare, prices, import and export and also, the imports coverage degree by exports.

Keywords: *oilseeds, production, export, import, price.*

INTRODUCTION

Agriculture is an important economic sector assuring food for population, raw materials for processing industry and agro-food products for export. Its contribution to GDP is 5.6%. It registered a continuous development in the last decade, and its future depends on a modern technical endowment, investments, employment of high qualified persons, a corresponding farm structure able to assure a higher productivity, economic efficiency and competitiveness (Popescu, 2015). The Romanian agricultural competitiveness is a debate full topic in the context of the late sectorial reforms during the country accession and convergence to the EU-28 agricultural model (Popescu et al., 2017). The agricultural sector holds a major place in the Romanian economy, with an important contribution to Gross Domestic Product (GDP) creation and also a key role in international trade. The importance of agriculture in Romanian economy results from its share in GDP, labour force and rural community's impact (Ciutacu et al., 2015). The analysis of the foreign trade activity is, like in the case of the other economical branches, of a

major importance for establishing efficiency, identifying trades and the justification of specific decisions in this activity (Anghelache, 1999). The external trade has a determinant role in Romania's trade balance, for both exports and imports, especially due the accentuated dependence for the imported food products. In Romania, the land is cultivated with crops which are competitive on world market: maize, wheat, oil crops and barley. These four categories accounts for almost 80% of arable land and have high competitiveness indices of 7.94, 7.52, 3.51 and, respectively, 9.81. Triticale and tobacco are also competitive on world markets, with Balassa indices of 6.65 and, respectively, 4.8, but their shares in arable land are lower 0.87% and, respectively, 0.01. The same products: maize, wheat, oilseeds and barley account for significant shares in agro-food exports: wheat holds the main share of 19%, followed by oilseeds, with 15%, and maize with 14.3%. This structure of exports contains almost the same agro-food products as other studies report (Gheorghe et al., 2017). Vegetables and fruits are foods of plant origin with an important role in the diet, because of their sensory characteristics and precious nutrients they contain, in the form of carbohydrates, vitamins, organic acids, mineral salts, etc. (Cîrstea et. al, 2013). As (Arghiroiu et. al, 2015) Romania was a net importing country of agricultural products. In 2013 the total trade balance has become a surplus. However, we can say that Romania has become conjectural self-sufficient, because we are surplus to only 5 of the 24 groups of agro-food products. We know a positive balance for cereals, oil seeds and oleaginous fruits, tobacco, live animals, products with raw material nature, and for the remaining agro-food groups we import massive, especially meat, sugars and sugar confectionery, fruits etc. The situation seems to be improving in recent years in terms of the total balance of trade balance, due to the major influence exerted by cereals and oil seeds and oleaginous fruits trade. An important indicator that influences the world, demand and supply is represented by the price over the international market. It has a strong informational consignment, being the basis of economic agent decisions (Angelescu et. al., 2010; Bordean et. al., 2010; Ursu, 2010). Romania's main trading partners in trade with oilseeds are the EU States members, but also we can observe that we import soya beans from Argentina, Brazil and Canada, linseeds from Turkey, India and we export sunflower in South Africa and Pakistan (Armenița Arghiroiu et. al., 2015). Romania is an important pawn over oilseeds market because it produces a significant quantity of sunflower for export. One of the main risk factors in obtaining sunflower crop with stable production is the appearance and evolution of the broomrape. In Romania, more than 60% of the sunflower cultivated area is infested with broomrape. The three more spread broomrape populations in the largest area cultivated with sunflower, are very different regarding the virulence and dissemination of the parasite The race G was definitely found in Tulcea and Constanta counties in Romania and latest surveys showed possible appearance of even more virulent race (Pacureanu et. al., 2009b). As (Pricop et. al., 2011) the race identification must be a continuous process to support farmers, by recommending sunflower hybrids based on the information concerning the parasite spread and virulence throughout the territory.

The identification of the parasite physiological races also supports breeders to develop strategy for improvement programs. An evaluation should be made in this context as follows: when the domestic demand of raw materials for processing increases, exports will be reduced (www.agravista.md, 2013). As (Balasu et al., 2014) the production losses caused by soybean bacterial burning (*Pseudomonas savastanoi* pv. *Glycinea*) are major when seed treatment is ignored and the environmental conditions are favorable for the attack.

MATERIAL AND METHODS

In order to make this research, were used statistical data referring to land surfaces sown with oilseeds, productions, the average yield per hectare, prices, import and export and the import coverage degree by export (an indicator of economic competitiveness) (Anghelache C., 2008).

$$GA = \frac{E}{M} x100$$

GA - represents the imports coverage degree by exports;
E - values of exports;
M - values of imports.

This indicator shows the percentage of the value of imported goods covered by the value of exported goods, showing the surplus, the equilibrated or deficit trade balance.

Multiannual average (A): $A = \frac{X1 + X2 + X3 + ...Xn}{n}$;

Growth rate (%):

$$G(\%) = \frac{Xix100}{A} \quad 100$$

G (%) - Growth rate;
Xi - the main indicator used in the analysis as cultivated area, yield, production, etc.;
A - Multiannual average (A).

These data were given by FOASTAT and the National Institute of Statistic and also obtained from the Ministry of Agriculture and Rural Development.
There were also consulted a series of books, magazines and special studies in order to show as concise as possible the evolution of the oilseeds market.

RESULTS AND DISCUSSION

As an European Union member since 2007 and a NATO member since 2004, Romania is currently one of the most dynamic large markets in Europe and plays a unique and important part in European agriculture.

Table 1. Surface evolution for the main oilseeds in Romania, during 2007-2016 (thousand ha)

Specification	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average (thousand ha) 2007-2016 growth rate (%)
Sunflower	835.9	813.9	766.1	790.8	995.0	1067.0	1074.6	1001.0	1000.0	1016	936.0
	growth rate (%)										
	-10.7	-13.0	-18.2	-15.51	+6.3	+14.0	+14.8	+6.95	+6.84	+8.6	100
Rapeseed	364.9	365.0	419.9	537.3	392.7	105.3	276.6	406.7	383.0	471.0	366.8
	growth rate (%)										
	-0.5	-0.5	+14.5	+46.49	+7.1	-71.3	-24.6	+10.9	+4.4	+28.4	100
Soybean	133.2	49.9	48.8	63.9	72.1	79.8	67.7	79.9	128.1	127	85.0
	growth rate (%)										
	+56.7	-41.3	-42.6	-24.8	-15.2	-6.1	-20.4	-6.0	+50.7	+49.4	100

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

Main oilseed crops cultivated in the EU are rape and turnip rape, sunflower and soya. The production was 31.1 million tonnes in the EU in 2016 which is in line with the 5-year average (– 0.8 % if compared to the 5-year average). In 2016, the rape and turnip rape seeds production was 20 million tonnes and it was the most common oilseed crop in the European Union despite its sharp decline since 2014 (-17.1%). The EU-28 sunflower seed production in 2016 was 8.8 million tons and decreased by -14.8% compared to 2014, followed by increase of 10.7% between 2015 and 2016. In 2016, the EU-28 soya production accounted for 2.5 million tons and it is steady increase since 2012 (Statistical Books, Eurostat, 2017 Edition). In Romania, oilseeds crops register a high weight of the total cultivated area. In Table 1. is presented the evolution of oilseeds surface in Romania, between 2007- 2016. There were analyzed three oilseeds crops, such as: sunflower, rapeseed and soybean. Between 2007-2016, the sunflower cultivated area varied between 766.0-1074.6 thousand ha. The largest surface cultivated with sunflower was of 1074.6 thousand ha, in 2013. During this year, the sunflower cultivated area increased with 14.8% than multiannual average (936.0 thousand ha). Concerning the area cultivated with rapeseed, had an oscillatory evolution, the largest surface was in 2010 with 537.3 thousand ha. In 2012 decreased over the total with 71.3% than multiannual average (366.8 thousand ha). Rapeseed has

become a more and more attractive crop for farmers due to the EU subsidy (Euro 45/ha) provided since 2005 for encouraging bio fuel production (Zahiu et al., 2010). Soybean cultivated area has varied from a period to another but generally it has continuously increased from 48.8 thousand ha in 2009 to 128.1 thousand ha in 2015, with 50.7% than multiannual average (85.0 thousand ha).

Table 2. The evolution of oilseed production (thousand tons) and medium production per hectare (kg/ha) in Romania, between 2007-2016

Specification		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average 2007-2016
Sunflower	thousand tons	546.9	1169.7	1098.0	1262.9	1789.3	1398.2	2142.1	2189.3	1758	1954	1530.8
	growth rate (%)	-64.3	-23.6	-28.3	-17.5	+16.9	-8.7	+39.9	+43.0	+14.9	+27.7	100%
	kg/ha	654	1437	1433	1597	1798	1310	1993	2187	1758	1923	1609
	growth rate (%)	-59.4	-10.7	-10.9	-0.7	+11.8	-18.6	+23.9	+35.9	+9.3	+19.5	100%
Rapeseed	thousand tons	361.5	673.0	569.6	943.0	739.0	157.5	666.1	1059.1	959.0	1336	746.4
	growth rate (%)	-51.6	-9.8	-23.7	+26.3	-1.0	-78.9	-10.8	+41.9	+28.5	+79.0	100%
	kg/ha	991	1844	1357	1755	1882	1496	2408	2604	2530	2836	1970.3
	growth rate (%)	-49.7	-6.4	-31.1	-10.9	-4.5	-24.1	+22.2	+32.2	+28.4	+43.9	100%
Soybean	thousand tons	136.1	90.6	84.3	149.9	142.6	104.3	149.9	202.9	262.0	262.0	158.5
	growth rate (%)	-14.1	-42.8	-46.8	-5.4	-10.0	-34.2	-5.4	+28.0	+65.3	+65.3	100%
	kg/ha	1021	1817	1726	2345	1980	1308	2216	2539	2045	2047	1904.4
	growth rate (%)	-46.4	-4.6	-9.4	+23.1	+4.0	-31.3	+16.4	+33.3	+7.4	+7.5	100%

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

Sunflower production has increased from 546.9 thousand tons in 2007 to 2189.3 thousand tons in 2014, with 43.0% more than the multiannual average (1530.8 thousand tons). Rapeseed production has recorded a continuous increasing trend in the analyzed period. In comparison with 361.5 thousand tons carried out in 2007, in 2016, Romania achieved 1336 thousand tons, with 79% than the multiannual average (746.4 thousand tons). Rapeseed production started increasing since 2007 at the moment when the European Union decided to expand energetic crops for bio fuel. Therefore, production performance has been determined both by the increased cultivated surface as well as by the increased yield (Table 2). Concerning the soybean production, had an oscillatory evolution during the analyzed period. In comparison with 84.3 thousand tons carried out in 2009, in 2015 and 2016, Romania achieved 262.0 thousand tons, with 65.3% more than the multiannual average (158.5 thousand tons). The medium production of sunflower per hectare varied between 654-2187 kg/ha. In 2014, medium production of sunflower increased over the total with 35.9% in comparison with the multiannual average. Rapeseed medium production varied between 991 and 2836 kg/ha. In 2016 it recorded an increase of 43.9% than in 2007. Soybean medium production varied between 1021 and 2539 kg/ha. The large production was reached in 2014. Table 3. shows the evolution of Romanian oilseeds export, during 2007-2016. The exported quantity of sunflower seeds varied between 382.6 and 1420.1 thousand tons. In terms of value, the year 2013 registered the highest income from sunflower seeds export (550.7 EUR millions). Rapeseed quantitative export varied between 68.2 in 2012 and 1461.9 thousand tons in 2016. The most significant soybean exported quantity was registered in 2016 with 108.9 thousand tons.

Table 3. Evolution of Romania's oilseed exports, during 2007-2016

Specification	2007		2008		2009		2010		2011	
	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)
Sunflower	382.6	105.4	471.3	192.2	564.2	146.1	557.4	214.8	1182.8	508.3
Rapeseed	279.1	77.7	564.0	246.0	782.1	223.7	1052.3	334.0	577.2	273.2
Soybean	22.0	4.7	38.9	13.5	10.4	3.0	36.9	13.2	72.7	28.4

Specification	2012		2013		2014		2015		2016	
	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)
Sunflower	652.4	335.6	1420.1	550.7	1321.9	452.5	1099.3	452.2	1183.7	489.9
Rapeseed	68.2	41.8	471.9	192.5	989.1	338.3	773.4	773.4	1461.9	549.0
Soybean	89.5	41.8	38.8	21.9	40.0	21.4	92.9	40.3	108.9	43.0

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

In Table 4. is presented the evolution of Romania's oilseeds imports, during 2007-2016. The quantitative import of sunflower varied between 66.6 and 1972 thousand tons, and the value oscillated between millions euro 32.5 and 138.4. Rapeseed quantitative import varied between 241.0 and 9.7 thousand tons. The quantitative import of soybean oscillated between 15.6 and 168.3 thousand tons.

Table 4. Evolution of Romania's oilseed imports, during 2007-2016

Specification	2007		2008		2009		2010		2011	
	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)
Sunflower	66.6	32.5	89.5	52.2	141.0	72.9	208.2	109.7	237.3	142.6
Rapeseed	9.7	7.9	76.3	35.8	70.4	28.1	241.0	88.1	70.6	50.2
Soybean	68.5	23.7	94.3	38.0	20.7	7.9	15.6	5.9	34.3	12.9
Specification	2012		2013		2014		2015		2016	
	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)	Quantity (thousands tons)	Value (millions EUR)
Sunflower	131.2	108.9	93.3	101.3	118.9	99.2	189.2	127.7	197.2	138.5
Rapeseed	59.4	42.8	28.8	21.3	38.9	29.7	38.3	26.5	28.1	32.2
Soybean	63.3	29.8	117.2	53.7	102.6	41.8	168.3	65.8	122.3	52.5

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

In Table 5., the import coverage degree by export for sunflower, varied from 324.71% in 2007 to 200.46% in 2009, to 543.81% in 2013 and 456.41% in 2014, for rapeseed, except for the year 2012, when trade is highly low compared to the rest of the analyzed period, the coverage is 97.65%, the exports value covering in the year 2014 is 1138.51% out of imports value. For soybean, the imports coverage degree by exports varied from 19.79% in 2007 to 40.8% in 2013, to 220.87% in 2010 and 219.35% in 2011.

Table 5.The imports coverage degree by exports (G_a(%)) for sunflower, rapeseed and soybean, during 2007-2016

Specification	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	%									
Sunflower	324.71	368.15	200.46	195.77	356.48	308.12	543.81	456.41	354.14	353.8
Rapeseed	983.47	686.93	794.45	379.12	544.32	97.65	903.81	1138.51	2912.4	1703.2
Soybean	19.79	35.55	38.48	220.87	219.35	140.15	40.80	51.11	61.3	82.04

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

Table 6. Average purchasing prices for oilseed, during 2007-2015 (RON/kg)

Specification	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average (RON/kg) (%)
Sunflower	0.84	1.12	0.86	1.19	1.58	1.84	1.59	1.26	1.5	1.31
	growth rate (%)									
	-35.9	-14.5	-34.4	-9.2	+20.6	+40.5	+21.4	-3.8	+14.5	100
Rapeseed	0.79	1.20	0.97	1.25	1.62	1.83	1.57	1.34	1.64	1.36
	growth rate (%)									
	-41,9	-11.8	-28.7	-8.1	+19.1	+34.6	+15.5	-1.5	+20.6	100
Soybean	0.78	0.97	0.96	1.23	1.3	1.71	1.83	1.43	1.33	1.29
	growth rate (%)									
	-39.5	-24.8	-25.6	-4.7	+0.8	+32.6	+41.9	+10.9	+3.1	100

Source: Romania's National Institute for Statistics Report; 2011, 2016; Own calculation.

Oilseeds price presented in Table 6. reflected a large variation from a year to another, but mainly a continuous increase starting from 2007. The increased price is justified by demand/offer ratio.

CONCLUSIONS

During 2007-2016, the sunflower cultivated area varied between 766.0-1074.6 thousand ha, with an increased production from 546.9 thousand tons in 2007 to 2189.3 thousand tons in 2014. The exported quantity of sunflower varied between 382.6 and 1420.1 thousand tons, the highest income from sunflower seeds export being reached in 2013 with 550.7 millions euro.

Concerning the rapeseed cultivated area, had an oscillatory evolution, the largest surface was reached in 2010 with 537.3 thousand ha. Rapeseed production has recorded a continuous increasing trend in the analyzed period, compared with 361.5 thousand tons carried out in 2007, Romania achieved in 2016, 1336 thousand tons. Rapeseed quantitative export varied between 68.2 in 2012 and 1461.9 thousand tons in 2016. Rapeseed exports had values situated between 41,8 EUR millions in 2012 and 549,0 in 2016. Soybean cultivated area has varied from a period to another but generally it has continuously increased from 48,8 thousand ha in 2009 to 128,1 thousand ha in 2015. Concerning the soybean production, in 2015 and 2016, Romania achieved 262.0 thousand tons. The most significant soybean exported quantity was registered in 2016 with 108.9 thousand tons.

Oilseeds prices reflected a large variation from one year to another but mainly a continuous increase starting from the year 2007.

The imports coverage degree by exports for sunflower, varied from 324.71% in 2007 to 200.46% in 2009, to 543.81% in 2013 and 4456.41% in 2014, for rapeseed, except for 2012, the trade was low compared to the rest. For soybean, the imports coverage degree by exports varied from 19.79% in 2007 to 40.8% in 2013, as a deficit balance, to 220.87% in 2010 and 219.35% 2011 reaching a surplus.

As a conclusion, in the coming years Romania will continue to become a more and more important oilseeds producer and exporter in the European Community.

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