

ORGANIC FARMING IN ROMANIA. CURRENT LEVEL AND DEVELOPMENT TRENDS IN ROMANIA AND EU

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Abstract. *In this work at the level of the 2010-2018 period, the current levels and the perspective of organic crops in Romania and the EU were sought to be played. Overall, there is a tendency to increase areas cultivated especially for cereal, industrial, grassland and meadow crops. In the structure of the organic production flow → the market there is the same tendency to increase the number of operators with the expansion of organically grown areas.*

EU-wide analysis of organic farming concerned: the pace of growth of areas for organic crops and actual cultivated surfaces; the differentiated level of these surfaces in the structure of the countries and the market of organic agri-food products within the EU market.

Keywords: area actually cultivated ecologically, ecological crop, ecological operator, SAU (used agricultural surface), growth rate, TRACES (trade and expertise control system).

Introduction

The organic farming is a problem discussed with a lot of urgency in the current stage given the multiple implications that are rebraking on the human food system. The initial elements imply knowledge of the ecological production possibilities, forms and current level of cultivation at territorial level. For Romania, it can be said that these potentialities exist. The problems that are being made, for our country, are quantitative, referring to the ways of expanding and structuring the surfaces of different cultures, and qualitative in terms of production[1].

The work aims: an analysis of the size and structure of the surfaces for the main cultures and groups of organic crops for the period 2010-2018; a comparison of ecological surfaces and retail sales of these products; Analysis of the importation of organic products within the EU; analysis and control system and traceability information by the number of environmentally certified operators falling within the categories of producers, processors, distributors and exporters/importers [2, 6].

The whole analysis of these links gives a knowledge of organic agriculture in our country, and allows for a comparative analysis with other EU countries.

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Materials and methods

The methodology in the study carried out was based on the existing values at national level for the period 2010-2018 : organically cultivated surfaces in total and in the structure of the main groups of crops and the number of ecological certified operators.

The comparative analysis consisted in: comparisons compared to 2010 (considered basic); The comparison in the annual structure of the crop group surfaces compared to the total organic cultivated areas; Percentage analysis that renders the annual variation of certified organic operators (based on the year 2010). The growth rate has been calculated, indicating in relative sizes how much the phenomenon researched each year has increased/decreased during the period analysed [2, 6].

In graphic form, the control system for products obtained in the EU is rendered, but also the percentage level of traceability information for these products.

Results and discussions

Knowledge of organic agriculture at national level was based on the analysis of results in the appearance of actual achievements, at the level of Romania and EU countries [2, 6].

1. **The area of organic crops and ecological operators** was analysed through the levels rendered in the dynamics of the period 2010-2018 from which the following may be said (table 1):

Table 1. Areas for organic crops and number of operators in Romania

Specify	Um	2010	2012	2014	2015	2017	2018	Annual Growth Rhythm (%)
Ecological destination Surfaces	Thousand ha	182.7	288.3	289.3	245.9th	258.5	326.3	7.52
	%	100.0	157.8	158.3	134.6	141.5	178.6	X
Eco-certified Operators	Total number	3155	15544	14470	12231	8434	9008	14.01
	%	100.0	492.7	458.6	387.7	267.3	285.5	X
	Ha on operator	57.9th	18.5	20.0	20.1	30.6	36.2	-5.70

Source:[5]Dynamics of operators and surfaces in organic agriculture, MADR, <https://www.madr.ro/agricultura-ecologica/operatori-exclusi-din-sistemul-de-agricultura-ecologica-de-catre-oic.html>; INS, Eurostat

- The area intended for organic crops in the analyzed dynamics has an ascending variation. This area was in the year 2010 of 182.7 thousand ha and ascended in 2018 to 326.3 thousand ha, which represents towards the base year 2010, a level of growth of + 78.1%;

- Annual growth rate on this period is by 7.52%;
 - The number of ecological operators (which means the total number of manufacturers, processors, distributors and exporters/importers), is structured according to EU requirements (*fig. 1*). In the analysis carried out at national level, the annual increases of organic operators reached a maximum of 15544 in the year 2012, followed by a decrease that reaches 9008 in the year 2018. The same variations also result from the comparison with the base year 2010. The annual growth rate for the dynamics of the number of operators is 14.01%.
 - The area that returns to an operator is 57.9 ha in the year 2010 and 36.2 ha in the year 2018, with an annual decrease of 5.7%.
2. The structure of areas intended for organic crops in Romania (table 2a and Table 2b), represents the aspect indicating the degree of attraction in the crops repatisation for the SAME period 2010-2018. The values shown in table 2A and 2b are the areas of these cultures, but also comparative levels in relation to their total areas of these cultures, as compared to the base year 2010.

Fig. 1. The management system (control) structure for organic products obtained in the EU [4]



From the analysis, by crop groups, the following interpretations result:

Table 2a. The size and dynamics of the main indicators of organic crops, for the period 2010-2018

Specify	MU	2010	2012	2014	2016	2018	Annual Growth Rhythm (%)
Ecological cultivated surfaces	Ha	182,706	288,261	289,252	226,309	326,260	7.52
Total Grains	Ha	72,298	105,149	102,531	75,198	114,427	5.91
	% total vs. Eco. surface	39.57	36.47	35.44	33.22	35.07	X
	% versus 2010	100	145.43	141.81	104.01	158.27	X
Dried vegetables and protein crops for the production of grains	Ha	5,560	2,764	2,314	2,204	8,751	5.83
	% total vs. Eco. surface	3.04	0.95	0.79	0.9	2.68	X
	% versus 2010	100	49.71	41.61	39.64	157.39	X
Tuberculiferous Plants and total roots	Ha	504	1125	627	707	506	0.05
	% total vs. Eco. surface	0.27	0.39	0.21	0.31	0.15	X
	% versus 2010	100	223.21	124.4	140.27	100.39	X
Industrial crops	Ha	47,815	44,789	54,145	53,397	80,193	6.68
	% total vs. Eco. surface	26.17	15.53	18.71	23.59	24.57	X
	% versus 2010	100	93.67	113.23	111.67	167.71	X
Plants harvested Green	Ha	10,325	11,083	13,494	14,281	28,254	13.41
	% total vs. Eco. surface	5.65	3.84	4.66	6.31	8.65	X
	% versus 2010	100	107.34	130.69	138.31	273.64	X
Other crops on arable land	Ha	580	28	30	258	113	-18.49
	% total vs. Eco. surface	0.31	0.01	0.01	0.11	0.03	X
	% versus 2010	100	4.82	5.17	44.48	19.48	X

Source: [5] Dynamics of operators and surfaces in organic agriculture, MADR, <https://www.madr.ro/agricultura-ecologica/operatori-exclusi-din-sistemul-de-agricultura-ecologica-de-catre-oic.html>

-In the group of cereal crops, industrial crops (with an intensive degree of crop), it can be noted in the evolution of the period analysed the existence of annual

increases. Compared to the year 2010 the most significant increases in the year 2018 are recorded in cereals (with + 58.27%), to which vegetables can be added (+ 57.39%, growth rate of 5.83%) and industrial crops (+ 67.71%, growth rate of 6.68%). For the same crops by comparison with the total area of organic crops in the last year, the grain crops (by 35.07%) and industrial crops (by 24.57%) can be highlighted on the one hand, and on the other hand beans crops (with 2.68%) and tuberculiferous plants (with 0.15%);

-for horticultural crops in the ecological system the share of occupied surfaces is much lower (it registers levels in vegetables limits of 0.30% and 0.66%, and at orchards between 1.69% and 5.69%). In the evolution of the analysed period there are increases compared to year 2010 but at which annual levels vary greatly the last year 2018 compared to the base year 2010, increases of about six times are recorded;

Table 2B. (continuation) Size and dynamics of the main indicators of organic crops, for the period 2010-2018

Specify	Um	2010	2012	201	2016	2018	Annual Growth Rhythm
Fresh vegetables (including melons) and strawberries	Ha	734	896	1,928	1,175	983	3.72
	% total vs. Eco. surface	0.4	0.31	0.66	0.51	0.3	X
	% versus 2010	100	122.07	262.67	160.08	133.92	X
Vineyards, orchards, fruit shrubs, nuts, etc.	Ha	3,093	7,781	9,439	12,020	18,569	25.11
	% total vs. Eco. surface	1.69	2.69	3.26	5.31	5.69	X
	% versus 2010	100	251.56	305.17	388.61	600.35	X
Permanent crops grassland and meadow	Ha	31,579	105,836	95,685	57,612	66,890	9.84
	% total vs. Eco. surface	17.28	36.71	33.08	25.45	20.5	X
	% versus 2010	100	335.14	303	182.43	211.81	X
Fallow land	Ha	10,217	8,811	9,059	9,457	7,573	-3.67
	% total vs. Eco. surface	5.59	3.05	3.13	4.17	2.32	X
	% versus 2010	100	86.23	88.66	92.56	74.12	X

Source: [5]Dynamics of operators and surfaces in organic agriculture, madr, <https://www.madr.ro/agricultura-ecologica/operatori-exclusi-din-sistemul-de-agricultura-ecologica-de-catre-oic.html>

-the category of use of grassland and meadows in the ecological system occupies areas to which significant variations are growing (compared with total ecological crops between 17.2% and 36.7%, and compared to the base year of comparison 2010 variations are between 160.5% and 335.1%). The annual growth rate is 9.84%;

-Fallow land, waiting, i.e. during the preparing period, appear in the records, occupying national surfaces between 10,217 ha and 7,573 ha. In the dynamics of the years, there is a decrease that compared to the total cultivated land at which the variation presents a void succesivity, which is between 5.59% (year 2010) and 2.32% (year 2018), and the decrease in the year 2010 is between 95.51% (year 2011) and 74.12% (year 2018).The annual growth rate is 3.67%;

The analysed structural ensemble reveals an increase in areas for organic crops at national level, but in different rhythms. To mention the group of cereal crops, industrial, grassland and meadow, which have the highest weights, with the groups of horticultural plants, tuberculials and those harvested green with a much lower level. But with these growths of organic crops we also find a decrease in the land highlighted in the ecological system but still uncultivated.

3. *The analysis of the structural level of areas actually cultivated organically and the commercial sales amount for organic products in EU countries, for the period 2000-2017*(table 3), has highlighted the following aspect:

- for EU, the areas actually cultivated are growing. Compared with SAU (the agricultural area used) an annual amplification is found, of which levels record an annual increase between 5.1% (in 2010) and 7.03% (in 2017), at which the rate of growth is by 4.69%;

- in the countries analysed, differentiated situations can be presented which structurally can be rendered as follows: *a)* countries with significant areas of areas actually cultivated organically (Austria and Sweden) whose shares are compared with SAU vary between 18.40 – 23.27% and 14.3-19.16% respectively, growth rhythms recording percentage levels of 2.62% and 4.27%; *b)* countries with moderate levels of ecological cultivated areas (France and Germany) annual weights ranging from 2.9-5.99% and respective 5.90-6.82%, at which growth rhythms are between 10.92% and 2.09%; *c)* The Exsocialite countries (Romania, Hungary, Bulgaria and Poland), which record the lowest levels, under the weighted comparative aspect, are in the year 2010 between 0.5% and 3.3%, and in the year 2017 between 1.93% and 3.73%, growth rhythms are located between 0.47% and 6.50%.

Table 3. The share of the area actually cultivated organically vs. SAU and the pace of growth in the main EU countries (%)

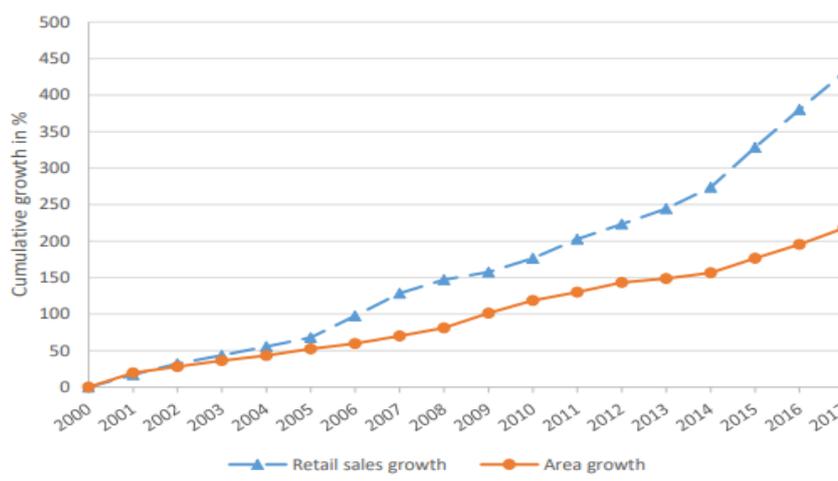
Country	2010	2012	2014	2015	2016	2017	Annual growth Rhythm (%)
Eu	5.1	5.66	5.78	6.2	6.68	7.03	4.69
Romania	1.3	2.1	2.09	1.77	1.67	1.93	5.81
France	2.9	3.55	3.87	4.54	5.29	5.99	10.92
Germany	5.9	5.76	6.18	6.34	6.82	6.82	2.09
Hungary	2.4	2.45	2.34	2.43	3.48	3.73	6.50
Bulgaria	0.5	0.76	0.96	2.37	3.2	2.72	27.38
Sweden	14.3	15.76	16.53	17.14	18.13	19.16	4.27
Poland	3.3	4.51	4.56	4.03	3.72	3.41	0.47
Austria	19.5	18.62	19.35	20.3	21.25	23.37	2.62

Source:[3, 4, 6, 7]INS, Eurostat

The annual dynamic of the period 2000-2017 is given in the cumulative figure at the European level in *fig. 2*.

It can be noted that the EU's ecological sector has developed at an accelerated pace with regard to the agricultural area involved. Thus, the total area of agricultural land used for organic farming in the EU increased from 9.1 million hectares in 2010 to 12 million hectares in 2016, which represents an increase of 33%. In 2016, the proportion of agricultural land in the EU for organic production compared to total SAU was 6.7%. [4, 6].

Fig. 2.-The aggregate growth of the area used for organic farming and retail sales in Europe (period 2000-2017) [7]

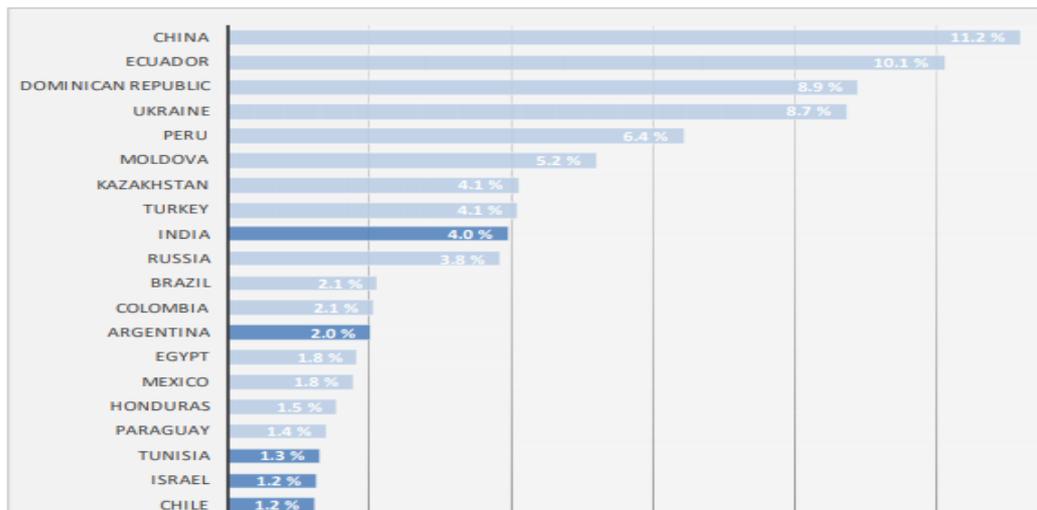


Overall, it can be noted, for the period mentioned, an increase in areas cultivated in the year 2017, which has a growth rate of more than two times compared to the level of 2000.

The analysis by the same annual developments on retail sales for organic products highlights the existence of much more accentuated increases, so that in the year 2017 compared to 2000 these increases are more than four times higher. It can also be found that this value of retail sales of organic products has risen from 18.1 billion EUR in the year 2010 to 30.7 billion EUR in 2016, which represents an increase of 69% (Fig. 2) [7]. The main 20 exporting countries, from a total of 114 countries, are played in Fig. 3 at the level of year 2018.

Norway and Switzerland are not included in this graph, since the Commission's trade control and expertise System (TRACES) did not include/contains any information on exports from these countries.

Fig. 3. Ranking of the main 20 countries from which organic products were imported into the EU in 2018 (depending on weight) [4]



It should be noted that from the total of imported organic products, approximately 87% are certified by equivalent control bodies (i.e. India, Argentina, Tunisia, Israel, Chile). (4)

Conclusions

From the whole paper on organic farming presented at national level alongside the achievements and comparisons played for EU countries, the following can be concluded:

1. In Romania both the area for organic crops and the areas actually cultivated for the period analysed record annual increases. Linked to these surface

increases and the number of operators is increasing, a decrease in the areas returning to an operator is also found.

2. From the analysis of the structure of surfaces intended for organic crops in Romania, an annual rhythm that is growing (compared with 2010) can be deduced and a variation of their annual level. The level of annual recorded rhythms (compared to the total of the ecological cultivated surface), relies a significant differentiation in the sense of the prevalence of cereal, industrial, grassland and meadow crops, alongside much lower levels existing in other cultures.

3. The control in the structure of the management system appropriate to the activities for the operators of the ecological system, the nomination by operations carried out (producers, stores, processes, transports, exports or imports of organic products) shall be specified. At national level, the increase in the number of operators is highlighted.

4. The comparative analysis carried out at the level of EU countries can highlight the following aspects: increasing the surfaces actually cultivated organically; growth rhythms record the highest levels of ecological surfaces for Bulgaria and France; the exsocialist countries are increasing significantly lower ecological surfaces compared to the EU average.

5. In relation to the market for organic products: The retail growth of organic products is much more pronounced than the increase in ecological production areas; the market for organic products for the EU highlights a massive import of these products from about 120 countries.

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