

## ECOLOGICAL FARMING: A DYNAMIC SECTOR IN ROMANIA

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**Abstract:** *The demand of numerous Romanian consumers for ecological products has increased in recent years, which is driving Romanian farmers to move towards ecological farming. Ecological farming aims to develop agriculture sustainably, to increase economic activities, and to increase interest in the development of rural areas by protecting the environment and by harnessing natural resources in a sustainable way. The authors of this article present the situation of ecological farming in Romania compared to other countries in Europe, i.e., the areas under ecological cultivation and the number of registered ecological farmers in Romania. Analysis of statistic data shows that both the area under ecological cultivation and the number of ecological farmers are on a growing trend in Romania. Ecological farming is a dynamic sector in Romania that has seen an upward trend in recent years, both in the vegetable sector and in the livestock sector.*

**Key words:** *Romania, ecological farming, area dynamics, rural development*

### INTRODUCTION

The increase in consumer demand and the limited variety of domestic products lead to increased imports, in particular for value-added products. The increase in consumer demand is due to a combination of factors.

The competent authority for regulating ecological production in Romania is the Ministry of Agriculture and Rural Development (M.A.R.D.). In Romania, the term "ecological farming" is the legal term for this type of farming. It is similar to "organic farming" and "biological farming" used in other European Union Member States.

Romania's growing economy, i.e., the growth of retailers, focuses on ecological products and consumer awareness. Overall, Romanian ecological farming still represents a relatively small share of the total conventional agriculture. In Romania, the ecological sector remains mainly export-oriented. [1]

Ecological farming is a production system that supports the well-being of soils, ecosystems, and people. It is based on ecological systems, biodiversity, and cycles adapted to local living conditions, instead of the use of chemicals with adverse effects. Ecological farming combines tradition, innovation and science for the benefit of the environment and can promote fair relations and a good quality of life for all involved. [2]

Ecological farming is a dynamic sector in Romania that has seen an upward trend in recent years, both in the vegetable sector and in the livestock sector. Ecological farming has started to develop more and more in Romania, as confirmed by M.A.R.D.'s statistical data. In 2019, there 9,821 operators in ecological farming were registered, and the total ecologically certified are was 395,227.97 ha, the largest in the last nine years. [9]



**Figure 1. Ecologically-certified operators and area in Romania (2019)**

*Source: Data processed after M.A.R.D.*

## MATERIALS AND METHODS

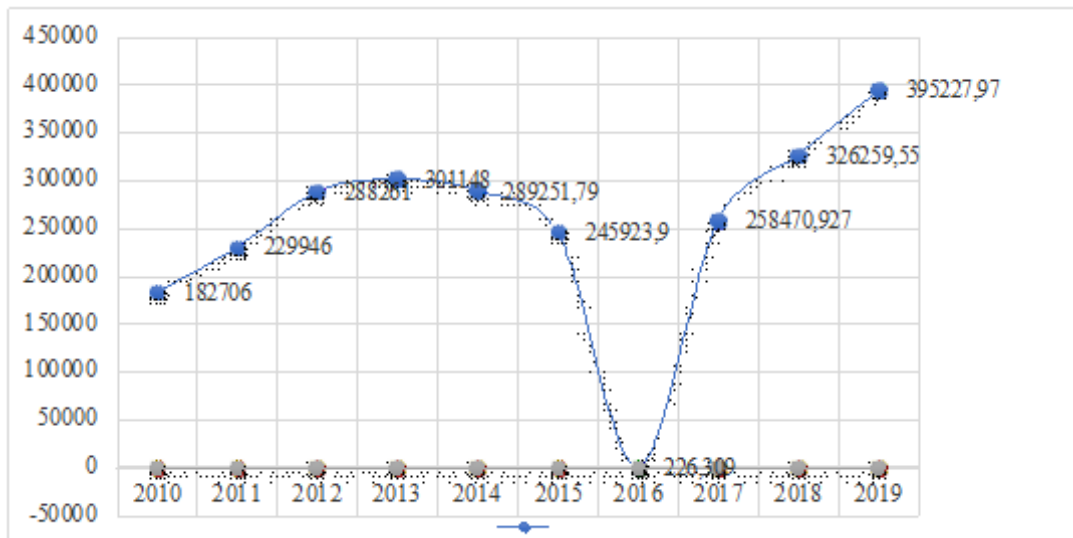
This scientific article examines the evolution of agricultural areas cultivated in accordance with the rules and principles of ecological farming worldwide and the number of farmers operating in the field of ecological farming. As a working methodology, in-depth research of published statistic data available at international and national level has been used. The methodological system used to process the information collected was based on methods and processes relying on bibliography, international statistics, and national studies. [10]

For the proper and high-quality use of existing information, as a working methodology we used the technique of indirect research, documentation, and collection information of in the field of ecological farming, and methods of quantitative and qualitative analysis have been combined to better understand the problem studied.

The information has been processed on the basis of Eurostat data and statistics available in the world of ecological farming and M.A.R.D.

## RESEARCH RESULTS

Following the analysis and study carried out with reference to ecologically cultivated areas in Romania, the dynamics of the ecologically cut-out areas during 2010-2019 is as shown in Figure 2.



**Figure 2. Dynamics of ecologically cultivated areas in Romania (2010-2019)**

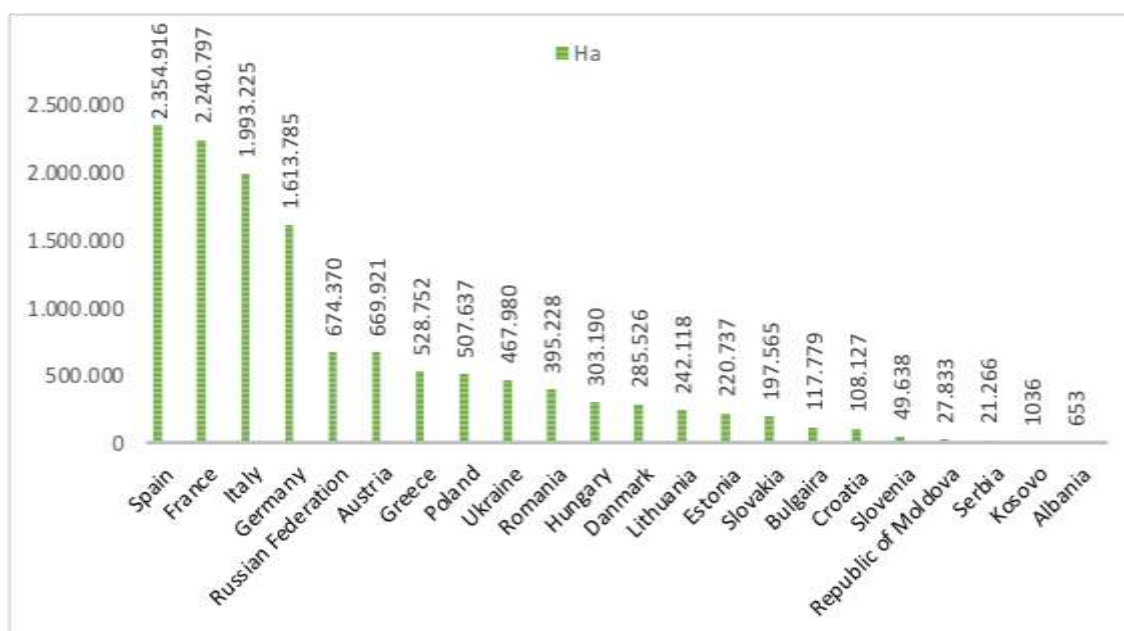
*Source: Data processed after M.A.R.D.*

There is a financial advantage for farmers, through support under European Union-funded measures: farmers are encouraged to switch from conventional to ecological farming methods and to maintain these methods after the initial conversion period. [11]

Thus, the Agriculture Payments and Intervention Agency (A.P.I.A.) 2021-2027 subsidies for ecological farming allocated were worth EUR 550,000,000. [12]

Farmers benefit from the conversion and elimination of chemical pesticides. By eliminating chemicals, especially pesticides, agricultural produce will be at low risk of contamination and will be safer for human and animal consumption[3]. Also, the drinking water web will no longer be at risk of contamination with nitrates and bacteria, and biodiversity will become more varied and will overcome the danger to which it is subjected today. [4]

In 2015, ecologically certified areas reached about 2.1% of the country's used agricultural area, i.e., double the percentage of 2006, but the proportion is very small compared to other European countries. [6]As regards the ecologically cultivated area, Romania ranks 10<sup>th</sup> in the hierarchy of European countries (Figure 3)



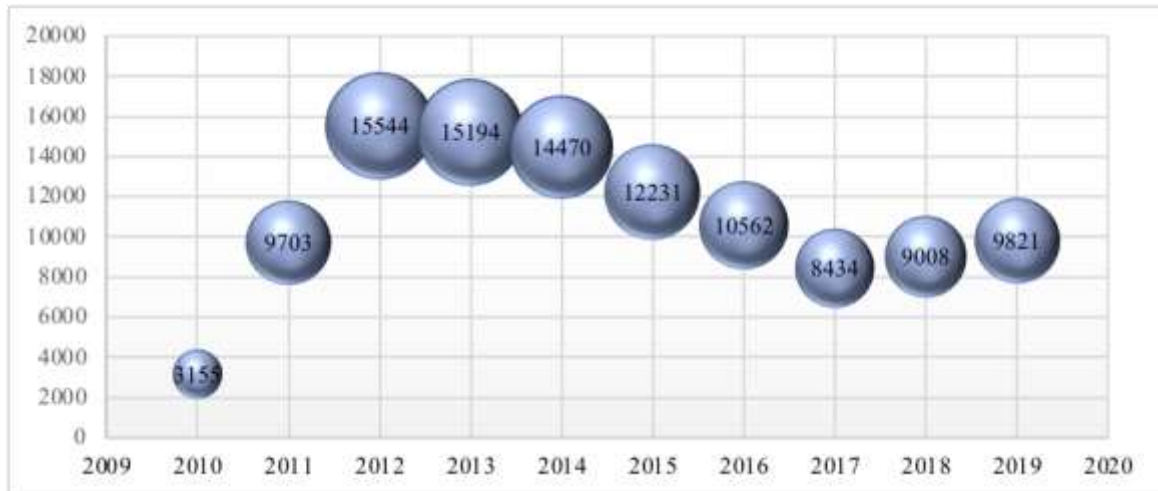
**Figure 3. Europe: Ecological agricultural land by country (2019)**

Source: FiBL-AMI 2021 study

Operators must register with M.A.R.D. before engaging in any ecological production activity and renew their ecological registration annually. In order to become ecologically-certified, farms undergo a conversion lasting at least two years. [8]

During the conversion period (the transition period from conventional to ecological farming), the farmer must comply with national and E.U. legislation, without fertilisers, synthetic pesticides, antibiotics, or genetically modified seeds. [5] For processors, local and E.U. requirements prohibit the addition of food additives or chemicals during the processing of ecological foods. [15]

Currently, there are, on the territory of Romania, 13 control bodies approved by M.A.R.D. for carrying out the inspection and certification of ecological agri-food produce. The largest number of operators were registered in 2012 (15,544), after which it gradually decreased until 2017 and, from 2018, there has been an increase reaching 9,821 registered operators in 2019 (Figure 4). [14]



**Figure 4. Evolution of certified operators in ecological farming**

*Source: Data processed after M.A.R.D.*

In 2018, the total certified area was 326,259.55 ha, higher than in previous years. Thus, in 2017, it was 258,470.927 ha and, in 2016, there were 226,309 ecologically-cultivated ha.

In 2018, there were 9,008 operators registered, the first increase after a significant decrease recorded for several years: from 15,544 in 2012 to 8,434 in 2017 (Figure 5).

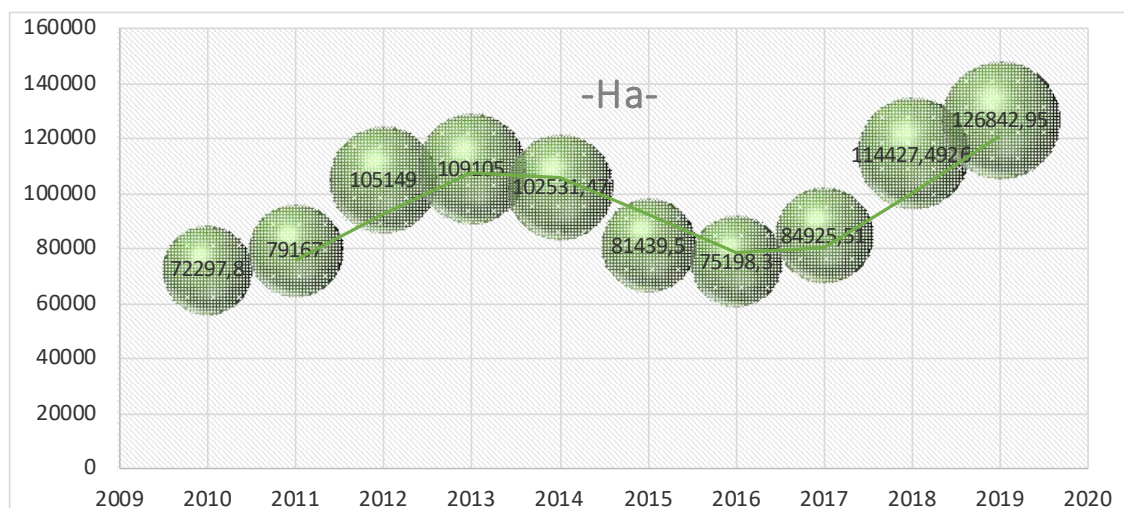


**Figure 5. Ecologically-certified operators and area certified in Romania (2018)**

*Source: Data processed after M.A.R.D.*

According to statistics, in Romania, in 2020, there were 270,656.7431 ecologically-certified ha and 10,405 ecologically-certified operators.

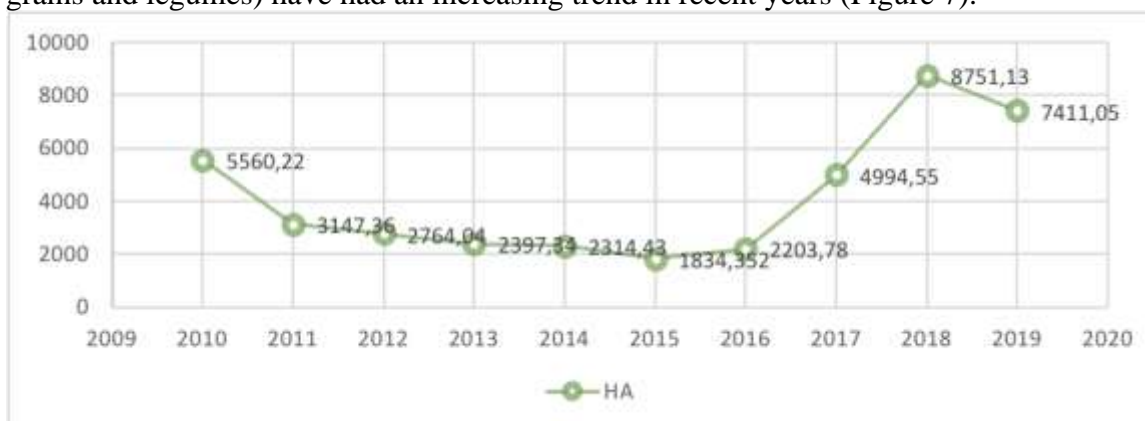
With regard to ecologically-certified grain in Romania, there has been a significant increase since 2010 (72,297.8ha) compared to 2019 (126,842.95 ha)



**Figure 6. Ecologically-grown grain dynamics (ha) in Romania (2010-2019)**

*Source: Data processed after M.A.R.D.*

Dried legumes and protein crops for the production of grains and seeds (mixtures of grains and legumes) have had an increasing trend in recent years (Figure 7).



**Figure 7. Evolution of dried legumes and protein crops for the production of grains including seed mixtures of grains and legumes**

*Source: Data processed after M.A.R.D.*

Currently, the total cultivated area in organic ecologically in Romania is 471927.8117 hectares, of which the certified area in current ecological regime is 270656.7431 hectares, and the number ecologically-certified operators is 10405 farmers. [7]

Of the 10,405 ecologically-certified operators 9,815 are agricultural producers, 402 are processors, 47 are spontaneous-flora operators, 71 are importers, 74 are exporters, 578 are traders, and 10 are aquaculture operators according to M.A.R.D. 2020 statistical data.

Table 1.

Ecologically-cultivated areas by counties (2020)

County	Ecologically-cultivated area (ha)	Conversion 1 <sup>st</sup> year (ha)	Conversion 2 <sup>nd</sup> year (ha)	Conversion on 3 <sup>rd</sup> year (ha)	Certified area (ha)	Certified operators
Alba	3983.13	1021.06	605.17	36.17	2320.73	306
Arad	29882.54	5380.28	8159.35	730.64	15612.27	345
Arges	2933.0835	364.3	1567.0739	93.65	908.0596	125
Bacau	2709.05	870.48	784.36	50.79	1003.42	141
Bihor	7266.8803	3695.0458	643.641	397.5985	2530.595	292
Bistrita Nasaud	10869.37	1566.48	2269.13	93.44	6940.32	443
Botosani	9663	1663.15	2464.8	306.62	5228.43	128
Braila	10035.71	5164.6	2677.23	16.16	2177.72	351
Brasov	7118.11	2356.78	898.92	201.67	3660.74	329
Bucuresti	19020.4916	950.9905	1059.38	353.6254	16656.4957	331
Buzau	1709.779	331.37	232.82	2.9	1142.689	124
Calarasi	3542.72	259.62	146.17	52.34	3084.59	41
Caras Severin	5404.8925	2301.8877	704.7448	26.54	2371.72	365
Cluj	12845.4	1916.88	2634.01	292.09	8002.42	513
Constanta	32611.564	8513.07	6185.05	262.6	17650.844	245
Covasna	7949.45	1424.96	2123.93	4.59	4395.97	117
Dâmbovița	578.41	83.6	72.19	211.17	211.45	49
Dolj	4831.62	2048.03	1368.66	137.47	1277.46	178
Galati	23845.28	5056.26	4265.98	82.71	14440.33	225
Giurgiu	1253.9	26.72	217.45	0	1009.73	27
Gorj	12246.97	2631.37	8039.34	47.47	1528.79	146
Harghita	7298.19	3119.52	1064.08	16.89	3097.7	316
Hunedoara	2686.98	214.87	692.13	34.15	1745.83	190
Ialomita	7429.32	2215.04	111.56	7.78	5094.94	38
Iasi	22601.81	2387.32	2041.79	14.43	18158.27	283
Ifov	481.2062	29.3095	6.63	19.22	426.0467	57
Maramures	5027.1	923.09	1208.76	188.67	2706.58	419
Mehedinti	1238.78	510.71	270.11	8.01	449.95	51
Mures	13407.45	3512.65	4452.68	438.04	5004.08	457
Neamt	3096.71	1596.62	257.25	81.36	1161.48	126
Olt	7157.773	3477	456.44	572.74	2651.593	120
Prahova	1870.5921	509.1417	661.14	21.3056	679.0048	101
Salaj	15107.4	3496.45	4462.66	271.62	6876.67	831
Satu Mare	16604.82	4226.41	5258.71	1169.94	5949.76	829
Sibiu	15548.32	2977	4701.6	43	7826.72	227
Suceava	5224.93	145.28	312.93	33.12	4733.6	407
Teleorman	10629.6942	3535.32	1436.31	20.707	5637.3572	96
Timis	55896.3453	9776.6337	9629.4835	1873.77	34616.4581	427
Tulcea	60371.85	8156.76	4333.83	125.26	47756	323
Vaslui	2112.04	788.44	518.87	29.12	775.61	100
Valcea	2553.26	1708.58	763.99	9.86	70.83	105
Vrancea	5281.89	1299.19	853.34	45.87	3083.49	81
<b>TOTAL</b>	<b>471927.8117</b>	<b>102232.2689</b>	<b>90613.6932</b>	<b>8425.1065</b>	<b>270656.7431</b>	<b>10405</b>

Source: Data processed after M.A.R.D.

CONCLUSIONS

Ecological farming is a dynamic sector in Romania that has seen an upward trend in recent years, both in the vegetable sector and in the livestock sector. The practice of ecological farming offers guarantees on environmental sustainability, animal welfare, and consumer health. [7]. The certification also guarantees the quality of the ecologically certified produce and applies to all economic operators in the food chain, helping

consumers to easily differentiate ecologically-certified produce from counterfeited ones. Although the yield is lower throughout the process, the price of ecological produce compensates for the effort. It is very important to remember that ecologically-certified produce contain at least 97% ecological ingredients.

Analysis of statistic data shows that both the area under ecological cultivation and the number of ecological farmers are on a growing trend in Romania.

Ecological farming aims to develop sustainable agriculture, to increase economic activities, and to increase interest in the development of rural space by harnessing true natural resources.

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