

## TRENDS IN ECOLOGICAL AGRICULTURAL PRODUCTION IN ROMANIA

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### Abstract

*The "Farm to Fork" European Union Strategy sets as key strategic objective to reach "at least 25% of the EU's agricultural land under organic farming and significant increase in organic aquaculture by 2030". The purpose of this paper is to assess the main ongoing trends of the organic farming in Romania. Statistical data was collected from the official website of the Romanian Ministry of Agriculture by studying the conversion and ecological attestation certificates published by the local certification bodies. In Romania there are 11 inspection and certification bodies that have certified 7,977 producers in 2021, mainly having as main activity the vegetable sector. The results reveal that in Romania around 3% of the land is under organic certification that is far below the above-mentioned EU thresholds. In conclusion, Romanian organic agriculture has many farmers who own small plot of land. Although there has been a growing trend of the organic certification over the past few years, the number and area of organic land is largely dependent on the CAP incentives and to a less extent to market opportunities.*

**Key words:** Green Deal targets, ecological agriculture, leverage points, Romania.

### INTRODUCTION

The European Commission proposes, as part of the European Green Deal, a set of measures aimed to combat climate changes and mitigate biodiversity degradation, which would ultimately lead to a more modern, competitive, and resource-efficient European economy [8].

The European Green Deal is a strategy for sustainable growth, that aims to protect, preserve, and enhance the EU's natural capital and to protect the health and well-being of citizens from environmental risks and their associated impacts. With its eight areas of transformation, it targets zero net greenhouse emissions by 2050 and an economy decoupled from fossil resources use, while making sure that no person or place is left behind [8].

The 'Farm to Fork' and the "Biodiversity" Strategies are ways to achieve the European Green Deal targets in agriculture, to support a food system that answer the needs of Europeans and the protection of the planet [8]. With the help of the European Green Deal, all actors in the food value chain, and especially

farmers, can find new measures to make their development possible [10].

The Farm to Fork Strategy is one of the main instruments of the European Green Deal that aims to make food systems cleaner, healthy and greener. The aim of the strategy is to make possible the transition to a sustainable food system, that should [10]:

- have a favourable environmental impact;
- help to reduce climate change;
- to maintain and increase biodiversity;
- assure access for all to sustainable, safe and nutritious food;
- maintain fair trade and food accessibility.

Objectives of the strategy also include the promotion of organic farming, as it is environmentally friendly by reducing the use of pesticides and chemical fertilisers also having a positive impact on biodiversity. That is why an increase of the organic area to 25% of the total agricultural area is expected by 2030.

The Biodiversity Strategy aims to restore biodiversity in Europe by 2030 for the benefit of people, the climate and the planet. The strategy aims to increase the resilience of our

societies to future risks (eg Covid-19), similarly [9]:

- the impact of climate change
- forest fires
- food insecurity
- disease outbreaks - including the protection of wildlife and combating illegal wildlife trade.

Organic farming promotes [2, 23]: the responsible use of energy and natural resources, the preservation of biodiversity, the maintenance of regional ecological balance, the enhancement of soil fertility and the conservation of water quality, which are among the objectives of the European Green Deal. Organic farming can bring significant contribution to sustainable development, environmental health and expansion of the green economy. It produces food safe, healthy for humans but also for the environment because no genetically modified organisms, fertilizers, pesticides, hormones and antibiotics are used. Moreover, there are no chemicals and additives involved in the food processing industries [1].

The EU has put in place a rigorous system to monitor and enforce organic food standards so that farmers feel the benefits of organic farming as a production method, and consumers can be sure that organic production rules are being followed. It is the European Parliament Regulation 2018/848, which sets the rules for organic production and labelling of organic products.

Monitoring and certification of organic products in Romania is performed by private certification and control bodies. They are regulated and operate according to the rules of Regulation no. 65/2010, approved by the Romanian Ministry of Agriculture and Rural Development, and their accreditation becomes a competent body for this purpose, according to the European standard EN ISO 45011: 1998 [7].

Organic farming owns almost 13.8 million hectares of agricultural land in the EU-27 in 2019, respectively 8.5% of the total utilized agricultural area of the EU-27 (Figure 1). The ecological area varies between 0.5% and - 25% in different EU Member States [12].

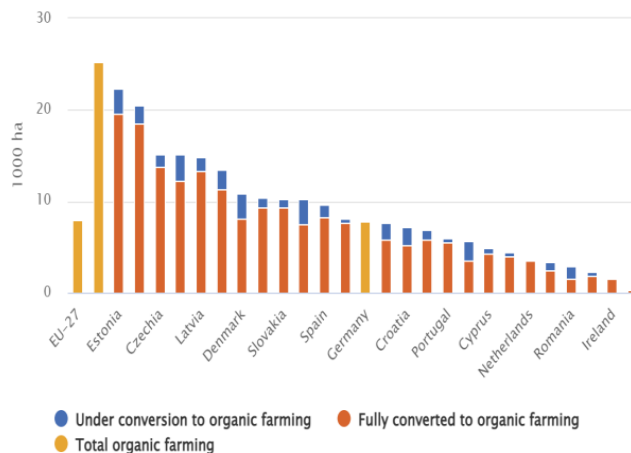


Fig. 1. Share of organic area in total utilized agriculture area, by country, 2019.

Source: Eurostat (online data codes:org\_cropar and apro\_cpsh1) [12].

To achieve the objectives of the European Green Deal, an Organic Action Plan has been drawn up, based on three interlinked axes sustained by 23 actions [11]:

Axis 1: encourage demand and ensure consumer trust;

Axis 2: increase conversion process and booster the entire value chain;

Axis 3: enhance the contribution of organic farming to environmental sustainability;

Financial support for this Organic Action Plan will be supported by the Common Agricultural Policy through agri-environment schemes. In addition to the financial support advice will be granted as part of the Agricultural Knowledge and Innovation Systems (AKIS) [11].

About 1.8% (€7.5 billion) of CAP is currently used to support organic farming. The future CAP will include green programmes supported with a budget of €38-58 billion for the period 2023-2030.

One objective of the "Farm to Fork Strategy" is to increase the agricultural area used in the ecological system, therefore the purpose of this research is to identify the current situation in Romania.

The natural conditions that Romania has, such as: large areas of pastures and hayfields, reduced historical amounts of chemical fertilizers, pesticides and herbicides applied, and low degree of water and soil pollution in comparison with other countries, are potential

advantages in the transition to organic farming [5].

In Romania, organic farming is supported by the European Agricultural Guarantee Fund through Measure 11: Organic farming in the form of compensatory payments paid annually, as a fixed amount per ha [21]. They are granted following voluntary commitments in two directions: conversion to organic farming methods and maintaining organic farming practices.

Table 1. Compensation payments Measure 11: Organic farming (2014-2020)

Measure 11: Organic farming-package	Compensation payments	
	Sub-measure 11.1 - Support for conversion to organic farming methods (€/ha/year)	Sub-measure 11.2 - Support for the maintenance of organic farming practices (€/ha/year)
Package 1- agricultural crops on arable land (including fodder plants)	293	218
Package 2 - vegetables	500	431
Package 3 - orchards	620	442
Package 4 - living	530	479
Package 5 - medicinal and aromatic plants	365	350
<b>Package 6</b> - permanent meadows:	-	-
<b>6.1</b> (applicable at national level on areas without commitment M.10)	143	129
<b>6.2</b> (applicable in the eligible areas and only together with an M.10 commitment)	39	73

Source: Agricultural Payments and Intervention Agency [3].

Therefore, two sub-measures are implemented (Table 1):

- 11.1 support for conversion to organic farming practices and methods;
- 11.2 support for the maintenance of organic farming practices and methods

In the period 2015-2020, 236.42 million euros were allocated from the European Agricultural Fund for Rural Development and the Romanian state budget for Measure 11: Organic Farming (EAFRD 200.69 million

euros and state budget 35.76 million euros) [19].

In addition to these compensatory payments, there are various rural development measures under the National Rural Development Programme that encourage the development of green activities by providing more support than for conventional activities.

## MATERIALS AND METHODS

The materials used in this research were: official reports; official statistical data about organic farming in Romania. The sources of these materials are the Romanian Ministry of Agriculture and Rural Development, the European Commission, the Research Institute of Organic Agriculture and the International Federation of Organic Agriculture Movements. In addition, the ecological conversion certificates and the ecological certificates provided by the local certification bodies were analysed.

The research methods used were the bibliographic study, the documentary analysis and the descriptive statistics to show the development of organic agriculture in Romania. The agricultural area, the number of certified operators in organic farming, the types of crops or animal species and the number of certification bodies were used as main results indicators.

## RESULTS AND DISCUSSIONS

The organic farming sector in the European Union has generally experienced great development between 2007-2020. This is a characteristic of the organic certified farmed area, which has in average a yearly growing rate of 5.4%. Romania registered the same trend, with growth rates higher than those observed at the European level (Figure 2) as also pointed out by Angelescu et al. (2021)[4]. In 2020 the ecological certified area was 3.45% of the total agricultural area [12], representing only 468,887 ha, which places Romania on the last places in the European Union.

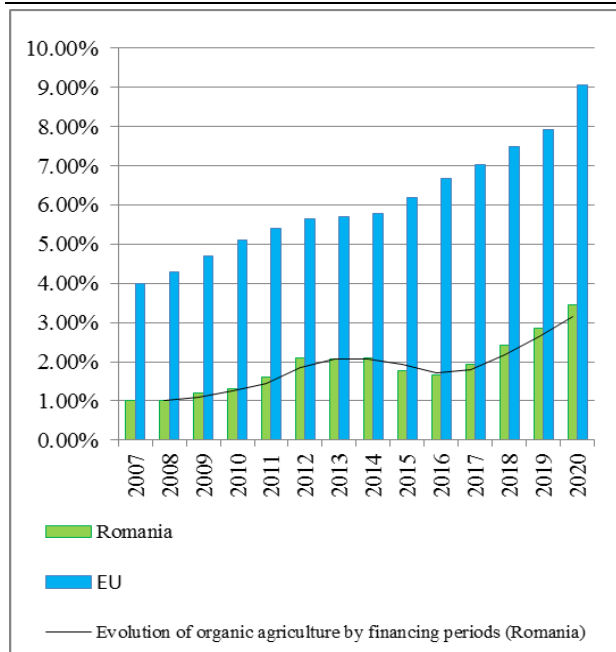


Fig. 2. Evolution of the agricultural area in Romania (%) and EU.

Source: Eurostat [12].

Before accession to the European Union, the area under organic farming was less than 1% [12], reflecting the lack of interest in the sector. However, after accession, support for maintaining certified land for organic farming was introduced in the Romanian National Rural Development Program 2007-2013 as measure 214 "Agri-environment payments", while at the same time payments were granted for the conversion period in accordance with Article 68 of Regulation (EU) No. 73/2009. The effect of this measure can be seen in Figure 2, where there is an important increase in organic area after a period of 3 years of conversion and 5 years of the commitment period (2010 – 2012) and (2017 -2020).

The decrease in organic area observed between 2015-2016 can be explained by the fact that the area under permanent grasslands (that accounted more than 70% of organic land) was subsidies only in the conversion period. This meant that after the 3 years of conversion, the farmers returned to the conventional farming[18].

The National Rural Development Program 2014-2020 encourages existing organic

practices, but also the transition from conventional to organic farming [18].

The increase in organic area from 2017 to 2020 is mainly a consequences of Measure 11 Organic Farming, which supports farmers with high payments/hectare as compared to those in the conventional system. During the conversation, the support represents between 143-620 euros/ha/year, and the certified areas receive between 129-475 euros/ha /year. Comparatively in the conventional system, the value of support is 96 euros/ha/year [17].

Regarding the types of products under organic certification, the largest area is occupied by cereals (32% of the organic agricultural area in 2019) (Figure 3). In 2020, the first place was represented by permanent pastures and meadows with around 33% of the total certified area. due to low historical levels of chemical fertilisers in use. Areas with fresh vegetables have declined from 1,928 ha in 2015 to 847 ha in 2020.

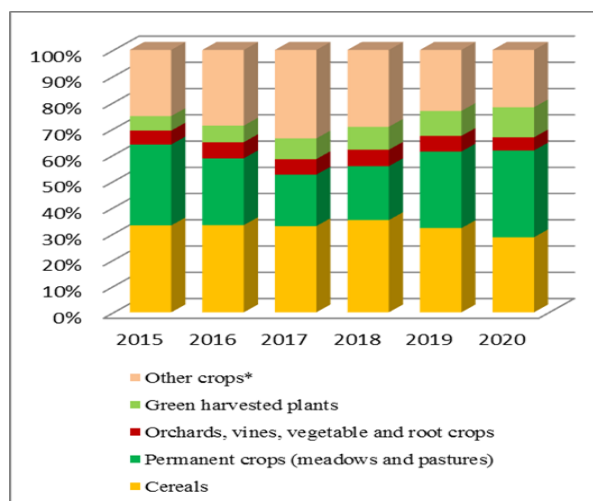


Fig. 3. Evolution of types of organic crops in Romania (%)

Source: Data communicated by the control bodies approved by MARD [16].

\*Other crops: grain legumes, industrial plants, other crops and unused land

There are strong variations in the livestock organic flock size (Table 2). For most species (cattle, swine, sheep, goats) there is a decreasing trend, but for poultry, bee families and equidae there is an increasing trend.

Table 2. Evolution of livestock under organic farming, in Romania, 2015-2020 (heads)

Year	Cattle	Swine	Sheep	Goats	Poultry	Equidae	Bees
2015	29,093	86	85,419	5,816	107,639	485	81,583
2016	20,093	20	66,401	2,618	63,254	0	86,195
2017	19,939	20	55,483	1,653	78,681	202	108,632
2018	16,890	9	32,597	1,360	83,859	0	138,557
2019	19,358	9	19,367	8,161	128,596	297	175,959
2020	19,870	14	13,189	830	171,391	506	170,789

Source: Data provided by the control bodies approved by MADR [16].

According to the Romanian certification bodies (Table 3) in 2021 there were 8,289 operators that can be divided in: 7,975 producers, 93 processors, 193 traders, 8 importers, 3 exporters, 3 in aquaculture production and 14 in spontaneous flora. Moreover, the ecological agricultural area is divided between many operators who own small plots.

Table 3. The inspection and control bodies accredited by the Ministry of Agriculture and Rural Development

Romania authority code	Control authority	% of certified operators 2021
RO-ECO-007	SC ECOCERT SRL	34.76
RO-ECO-008	SC ECOINSPECT SRL	27.07
RO-ECO-009	BIOS SRL ITALIA ROMANIA BRANCH	3.62
RO-ECO-015	AGRECO R.F. GODERZ GMBH GERMANY ROMANIA BRANCH	1.22
RO-ECO-016	BIOAGRICERT SRL ITALY ROMANIA BRANCH	1.07
RO-ECO-018	AUSTRIA BIO GARANTIE GMBH ENZERSFELD BUCHAREST BRANCH	1.87
RO-ECO-021	CERTROM SRL	5.60
RO ECO-024	CERES ORGANIC CERT SRL	4.16
RO-ECO-025	BIO CERT TRADITIONAL SRL	9.62
RO-ECO-026	SC SRAC CERT SRL	10.16
RO-ECO-027	SC TUV AUSTRIA ROMANIA SRL	0.85
RO-ECO-028	RINA SIMTEX-ORGANISM DE CERTIFICARE SRL	0

Source: Ministry of Agriculture and Rural Development (2021) [16].

Table 4 shows that the number of organic producers varies greatly both in total number and by county.

According to the last 6 years averages, the county with the highest number of organic producers is in Satu Mare county located in the North part of the country (755 producers). On the other hand, Ilfov county is on the last place (in average with only 17 producers). The organization structure shows that more than 53% of producers are individual farmers with no legal status (Figure 4), thus making difficult to sell any products on the market.

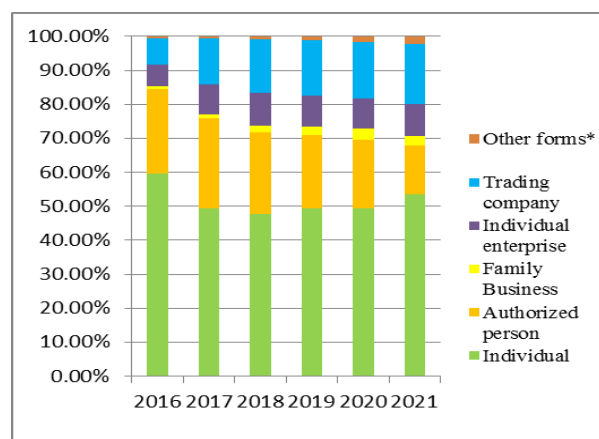


Fig. 4. The evolution of the form of organization of ecological producers in Romania.

Source: Data communicated by the control bodies approved by MARD [16].

\*Other forms: Cooperatives, agricultural society, associates, composers and institutions (high schools, parishes, universities, research centers)

Consumption of organic products in Romania represents only about 1% of total food consumption, while the European average is between 3-5% [20, 22]. Consumption is still low compared to other European countries, mainly due to low purchasing power but also due to the socio-demographic characteristics (level of education and social status). Another factor is represented by the price difference of about 20-40% compared to conventional products [22]. The low level of the internal market for organic products is illustrated by the per capita expenditure on organic

products, which was only 2 euros in Romania in 2019, while the average in the European Union was 84 euros [12]. The total sales volume of organic products represented 41 million euros in 2019 [12].

Moreover, only 10% of organic food consumption comes from domestic sources,

the remaining 90% being imported [14]. Although Romania imports many organic products, it exports a large amount of organic raw materials [6]. Thus, exports in 2020 (10,888 thousand tonnes) [13] increased by about 20% compared to 2019 (9,025.71 thousand tonnes) [12].

Table 4. Evolution of organic producers in Romania by county

No	County	Number of organic producers					
		2016	2017	2018	2019	2020	2021
1	Alba	1,930	683	266	281	276	100
2	Arges	23	62	97	105	114	50
3	Arad	107	141	186	280	314	358
4	Bucuresti	70	93	122	140	131	87
5	Bacau	95	109	146	124	115	56
6	Bihor	215	214	203	232	279	284
7	Bistrita-Nasaud	517	363	379	400	418	463
8	Braila	23	40	86	139	328	465
9	Botosani	163	169	189	123	119	67
10	Brasov	311	299	267	288	290	227
11	Buzau	47	71	130	120	110	61
12	Cluj	553	438	340	417	400	363
13	Calarasi	32	37	40	39	39	37
14	Caras Severin	525	437	369	363	358	298
15	Constanta	92	119	171	178	218	205
16	Covasna	172	132	64	82	89	79
17	Dambovita	21	32	35	42	44	25
18	Dolj	57	77	111	126	166	47
19	Gorj	12	18	42	114	141	9
20	Galati	71	110	147	183	203	141
21	Giurgiu	32	34	26	34	27	23
22	Hunedoara	438	215	178	163	163	106
23	Harghita	218	223	298	281	297	603
24	Ifov	11	15	27	20	18	14
25	Ialomita	44	34	34	34	31	24
26	Iasi	557	365	330	285	272	74
27	Mehedinti	15	23	40	43	47	19
28	Maramures	326	253	297	367	379	381
29	Mures	331	287	233	360	415	355
30	Neamt	41	56	83	96	111	31
31	Olt	13	26	41	68	110	78
32	Prahova	19	40	66	73	70	49
33	Sibiu	56	84	118	162	200	178
34	Salaj	551	527	548	779	825	777
35	Satu Mare	639	707	722	915	813	737
36	Suceava	854	223	726	663	380	282
37	Tulcea	166	259	341	293	312	238
38	Timisoara	106	155	222	292	370	410
39	Teleorman	45	56	94	91	87	58
40	Valcea	11	41	82	93	106	24
41	Vrancea	46	50	61	60	69	67
42	Vaslui	35	48	73	86	90	25
	Total	9,590	7,365	8,030	9,034	9,344	7,975

Source: Data communicated by the control bodies approved by MARD [15].

## CONCLUSIONS

In the last years, the organic farming has an increasing trend in Romania. Even so, the

current trend cannot support the achievement of the desirable threshold of 25% by the end of 2030. The development of the ecological area is highly dependent to the CAP support

measures. Large parts of the organic areas received only subsidies without decisively contributing to an increase in the domestic offer of organic products.

Romanian organic agriculture is characterized by many producers, with extremely small average sizes. More than half of the operators are individuals without having any legal status. In terms of certified crops, Romania is very diverse, with a focus on cereals and meadows thus having marginal effects on the high value-added products.

Moreover, almost 90% of organic products come on the internal market from imports due to the low number of organic processors.

Unfortunately, consumer awareness of organic food is also low. However, more and more domestic consumers are looking for high quality food products respecting in the same time environmental and biodiversity integrity.

The certification process in organic agriculture is not driven by the market forces. Currently the main leverage point is represented by the financial support provided by the CAP.

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