

## THE EVOLUTION OF AGRICULTURAL LAND AND LIVESTOCK EXPLOITED IN ORGANIC FARMING SYSTEM IN ROMANIA BETWEEN 2010-2014

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### Abstract

*In the last years and especially after the country's integration into the European Union the number of organic producers and the organic area grew at a rapid rate in Romania. The driving force for the developing of organic sector in our country is represented by the export market and the payments for organic farming system which are an important foundation for the financial performance of organic farms. The aim of this study was to analyze the evolution of organic farming system in Romania, with special reference to the area of organic land, the number of organic operators, the use of organic land and the organic livestock. The results of study showed that the total area of organic land in our country in 2014 it was 289.252 ha which is higher with about 58% as compared with that existing in 2010 which represent 2.22% of the total utilised agricultural area. As regards the use of organic agricultural land, it was found that in 2014 the largest part of them, namely 63.6% were occupied with arable land, 33.1% with permanent grassland and 3.1% with permanent crops. This study shows that in 2014 there were 14,470 operators in organic farming system and the main activities in the organic sector at farm level are the organic crops and rearing of organic animals.*

**Key words:** organic area, livestock, organic farming, organic producers.

### INTRODUCTION

Organic farming is a sector of agriculture which has registered a constant growth in our country in recent years and especially after the country's integration into the European Union (Răducuță, 2011; Răducuță et al. 2014).

The driving force for the developing of organic sector in our country is represented by the export market and the payments for organic farming which are important foundations for the financial performance of organic farms, since they compensate them for additional costs or income foregone due to their organic commitments (Willer et al., 2014).

Organic farming is a way of agricultural production which uses organic production methods and places the highest emphasis on environmental and wildlife protection and, with regard to livestock production, on animal welfare considerations.

The respect for the environment is an intrinsic part of organic agriculture. Organic farming is a method of food production that combines best

environmental practices, a high level of biodiversity and the preservation of natural resources.

Our country's potential for organic farming system is very high because in recent decades were used small amounts of fertilizers and pesticides and as a consequence we have a reduced pollution of water and soil compared to other countries (Răducuță, 2012). In addition, in the last years, the farmers have adopted technologies for crop production and livestock which are friendly for the environment.

Organic farming system has a great future in Romania, both in the plant cultivation and in the animal sector, confirmed by the evolution of the number of operators which registered a high trend in recent years, increasing organic land area and number of animals raised organically (MARD, 2016).

The aim of this study was to analyze the current state of development in organic farming sector in Romania.

## MATERIALS AND METHODS

The analyze of organic farming system evolution was made in 2010-2014 period with special reference to the area of organic land, the number of organic operators, the way of use of organic agricultural land and the organic livestock number.

To achieve this goals we analyzed the data of official statistics provided by different institutions (Eurostat, FAOSTAT, Ministry of Agriculture and Rural Development from Romania), after that was calculated the percentage difference between reference years to interpret the obtained data and finally were issued the conclusions arising from this study.

## RESULTS AND DISCUSSIONS

The results of this study showed that in 2010-2014 period the total organic land area increased with 58.3% (Table 1). The area of organic agricultural land in 2014 was 289.252 ha from which 190.430 ha are fully converted to organic farming and 98.822 ha are under conversion (MARD, 2016; Eurostat, 2016). Also the area of organic agricultural land in 2014 is with about 0.6 times higher as compared with the existing area in 2010 and represents 2.22% of the total utilised agricultural area from our country.

Table 1. Surface dynamics and number of operators in organic farming

Specification	2010	2012	2014	Change 2010-2014 (%)
Organic agricultural land (ha)	182.706	288.261	289.252	58.3
Share of total utilised agricultural area (%)	1.37	2.17	2.22	-
Number of organic operators	3.155	15.544	14.470	358.6
Organic arable land crops (ha)	148.034	174.644	184.128	24.4
Organic permanent grassland (ha)	31.579	105.836	95.685	203.0
Organic permanent crops (ha)	3.093	7.781	9.439	205.2

The size of the organic area differs considerably from one EU Member State to another. In terms of the total organic area of

each EU Member State as a share of the total EU-28 organic area, four countries together accounted for around 51% in 2014: Spain (16.6%), Italy (13.5%), France (10.8%) and Germany (10.0%).

Organic production comes from fully converted areas. Before an area can be considered as organic, however, it must undergo a conversion process. The total organic area is the sum of the area under conversion and the fully converted area (Eurostat Statistical books, 2016).

The area under conversion as a percentage of the total organic area can give an indication of the potential growth in the organic sector in the years to come (Rohner-Thielen, 2010).

From this point of view, our country has a high potential, the area under conversion occupied 34.2% from total organic area (Table 2). In 2014, seven EU Member States had shares of more than 20% land area under conversion, Romania being placed on fifth position, after Bulgaria, Croatia, Malta and Cyprus.

Table 2. Share of area under conversion, 2014 (% of total organic area — fully converted and under conversion)

Specification	Total Organic Area (ha)	Share of total Organic Area (%)	
		Fully converted area	Area under conversion
Romania	289.252	65.8	34.2

As regards the use of organic agricultural land, it was found that in 2014 the largest part of these, namely 63.6% were occupied with arable land crops, 33.1% with permanent grassland and 3.3% with permanent crops (vineyards and orchards) (Figure 1).

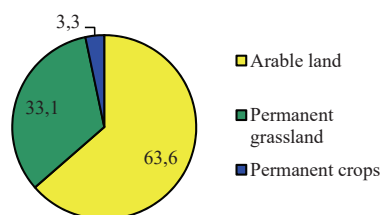


Figure 1. The use of organic agricultural land in Romania in 2014

The analysis of the main types of organic agricultural land in the period 2010-2014 reveals that the area of organic arable land

crops increased with 24.4%, the area occupied by organic pastures and meadowland increased by 2.0 times, and the area occupied by organic permanent crops (vineyards and orchards) increased by 2.1 times (Table 1).

The three main crop types grown organically are arable land crops (mainly cereals, industrial crops, green fodder, fresh vegetables), permanent crops (mainly orchards and vineyards) and permanent grassland. Among the arable crops, cereals and industrial crops occupied the biggest area from total (85.1%), respectively 55.7% for cereals and 29.4% for industrial crops.

In our country currently operate 14 inspection and certification bodies approved by MARD for the inspection and certification of organic products throughout Romania in accordance with article 4 of Ministerial Order no. 181/2012 and article 27 of Regulation (EC) 834/2007.

Also this study shows that in 2014 there were 14,470 organic operators from which over 99% were organic producers and remainder were processors and traders. The number of organic operators in 2014 is with about 3.6 times higher as compared with the existing number in 2010.

In 2014, there were close to 257.100 organic producers in the EU-28 from which Romania had a share at about 5.6%.

This increase was due, in particular to existing support measures for the conversion period granted under article 68 of Regulation (EC) no. 73/2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers (MARD, 2014).

Activities within the organic sector include the food chain from production at farm level right through to industrial processing. Imports, exports and other activities, such as wholesale and retail trade, are also included. The production of organic crops and the rearing of organic animals are the main activities in the organic sector at farm level, but the processing of goods is also important.

Animal breeding in the organic farming system has grown in Romania in recent years. It is focused on producing animals from a predominantly forage-based system, with an emphasis on maintaining animal health through improved of animal welfare and a reduction in the use of conventional veterinary treatments.

Feeding, accommodation and care of animals are important factors for health and welfare of farm animals in organic systems. Also in organic farms, the native breeds seem to be used more than in conventional farms (Răducuță, 2012).

The livestock sector in 2014 (under conversion and fully converted to organic farming) recorded an increasing of number of animals reared through the organic production methods, especially at cattle, sheep and goats (Table 3). According with these data the situation of certified organic livestock in 2014 was as follows: 33.782 heads of cattle, 114.483 heads of sheep, 6.440 heads of goats, 126 heads of pigs and 57.797 heads of poultry.

Table 3. Dynamics of organic livestock (heads)

Specification	2010	2012	2014	Change 2010-2014 (%)
Cattle	5.358	7.044	33.782	530.5
Sheep	18.883	51.722	114.483	506.3
Goats	1.093	1.212	6.440	489.2
Pigs	320	344	126	-60.6
Poultry	21.580	60.121	57.797	167.8

In the analyzed period (2010-2014) the number of organic cattle increased by 5.3 times, the organic sheep number by 5.1 times and the organic goats number by 4.9 times.

Regarding the organic poultry sector their number during the analyzed period it increased by 1.7 times, whereas the number of organic pigs decreased by 60.6%.

The statistic data showed also that cattle and sheep (with a share of 1.67% and respectively 1.25% of total livestock) are the most popular species reared using organic production methods in our country (FAOSTAT, 2016) (Table 4).

Table 4. Organic livestock 2014 in Romania and their share from total livestock (heads)

Specification	Total livestock	Organic livestock	% of total livestock
Bovines	2.022.408	33.782	1.67
Sheep	9.135.678	114.483	1.25
Goat	1.312.967	6.440	0.49
Pigs	5.180.173	126	0.002
Poultry	79.440.000	57.797	0.07

Not surprisingly it is for the pork sector that the sector has the lowest weight. This stems partly from the difficulties posed by the provision of organic animal feed (compound feed).

The agricultural land area of an ecological holding varies according with the type of production. The average size of organic agricultural holdings was estimated at 36.7 ha for the EU-28 as a whole, compared with 16.1 ha for all agricultural holdings (Eurostat Statistical books, 2016). In Romania the average size of organic agricultural holdings is about 25 hectares.

The Romanian organic sector is highly export-oriented. The main export products are cereals, and collected wild mushrooms and berries. The main import products are processed food (Willer H. et al., 2014).

The demand for certified organic products is continuously increasing and the price representing an important factor in the purchasing decision. Currently, the domestic market for organic products is continuously expanding and the organic products can be sold directly from the farm gate, home deliveries, sales via the Internet, farmers' markets, seasonal sales markets or fairs, specialized stores and supermarkets.

Domestic consumption of organic products is extremely low (1% from the total foodstuff and mainly in urban area).

## CONCLUSIONS

The total organic land area increased with 58.3% in 2010-2014 period reaching to 289.252 ha, which represent 2.22% from total utilised agricultural area from our country.

Regarding the use of organic agricultural land, it was found that the largest part of these, namely 63.6% were occupied with arable land crops, 33.1% with permanent grassland and 3.3% with permanent crops.

The number of organic operators in 2014 is with about 3.6 times higher as compared with the existing number in 2010.

The production of organic crops and the rearing of organic animals are the main activities in the organic sector at farm level, but the processing of goods is also important.

The livestock sector in analyzed period recorded an increasing of number of animals reared through the organic production methods, especially at cattle, sheep and goats.

Cattle and sheep (with a share of 1.67% and respectively 1.25% of total livestock) are the most popular species reared using organic production methods in our country.

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