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THE EVOLUTION OF ORGANIC AGRICULTURAL LAND AREAS IN THE EMERGING COUNTRIES OF THE EUROPEAN UNION

ABSTRACT

The paper analyses the manner in which organic agriculture has developed in the emerging countries of the European Union, in particular during the current economic crisis.

Organic agriculture represents a continuously expanding sector in the European Union. In the period 2000-2012, the total utilized area for organic production increased by 6.7% per year on the average, reaching approximately 9.6 million hectares, accounting for 5.4% of the total utilized agricultural area in the EU.

The emerging nations in the European Union (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania) have experienced a brisk development pace in terms of the area farmed under the organic system, which expanded to 1,614,226 hectares in the period 2009-2012, representing 17% of the total organic land area of the European Union.

Owing to the significant areas farmed under the organic system and to the large number of registered operators, which also correlate with a low development level of the domestic markets for organic agricultural products, the emerging nations of the European Union represent an important source for imports of organic products in the EU.

Key words: organic agriculture, evolution, emerging nations of the European Union.

JEL Classification: Q01, Q17, Q24.

1. INTRODUCTION

Lately, consumers have become increasingly interested in food security, in particular in healthy food with high nutritional value. There is also an increased interest in environment protection and conservation of natural resources. In this context, in recent decades, a number of concepts have emerged related to “environment-friendly” farming systems, and among them to the organic farming system. This system should be viewed as an integral part of sustainable development strategies and as a viable alternative to conventional agriculture (Toader *et al.*, 2014).

Owing to the constant growth in demand, the global market for organic products reached 64 billion USD in 2012, out of which the European Union market accounted for 29 billion USD (Sahota, 2014).

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In the period 2000-2012, the total area utilized for organic production in the EU countries grew by 6.7% per year on the average, reaching about 10 million hectares, which accounts for 5.6% of the total utilized agricultural area in the EU (Willer, 2014).

In 2012, the International Monetary Fund ranked Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania as emerging economies in the European Union (IMF, 2012). The domestic market for the sale of organic products is very limited in these countries, as most organic products produced in these countries are exported.

As regards the areas under organic farming, these countries have experienced a brisk pace of development in the period 2009-2012, reaching 1,614,226 hectares (EUROSTAT), which accounted for 17% of the total organic land area in the European Union.

2. STATE OF KNOWLEDGE

The scientific research on organic farming systems for various crop species goes back to the 1930s, yet the first signs of acknowledgment of the production and commercial activity dates back to 1980, when organic farming was recognized both by the market and by governments and national and international bodies. The literature in the field includes a series of research papers that present the findings of economic research focusing on the organic farming sector.

Drawing on studies from the UK, USA, Canada, Australia, Germany, Denmark and Switzerland, the reputed researchers N. H. Lampkin and S. Padel published the book *The Economics of Organic Farming: An International Perspective* in the year 1994, providing for the first comprehensive international analyses of the economic aspects of organic farming.

Since the year 2000, FiBL and IFOAM have been implementing a joint research project, publishing the directory "*The World of Organic Agriculture*", a report coordinated by the distinguished researcher Dr. Helga Willer. This publication, in addition to statistical data collected as part of the study on organic agriculture worldwide, provides information on recent developments and trends in organic farming.

Organic farming in the emerging countries of the European Union is not distinctly examined in published research papers.

3. MATERIAL AND METHOD

The paper analyses the evolution of the land area farmed under the organic farming rules and principles in the emerging countries of the European Union.

The working methodology was the in-depth review of published scientific papers, available international statistical data and the EU programmatic documents related to organic farming.

The methodological system used for processing the collected information drew on methods and procedures based on literature review and international and national statistics.

In order to ensure the appropriate and most effective use of currently available information on organic agriculture, the technique used, in particular, was the indirect research, i.e. documentation, which consists of consulting various research papers, documents provided by various institutions, official acts and documents, and the internet collection of information.

The analysis operations *per se* were based on the use of the various research methods, grouped as follows: methods used to determine the extent of the phenomenon (comparison method); methods used to study the structure of the phenomenon by component elements and the interdependence relations among these (division method); methods for the analysis of phenomena typical of a group of homogenous units (statistical grouping method). Given the complexity of the analyzed phenomenon a combination of quantitative and qualitative analysis methods was required for a complete knowledge of findings and for grounding the conclusions.

The calculations were performed using Eurostat databases and statistical information available in the reports "*The World of Organic Agriculture. Statistics and Emerging Trends*", FiBL and IFOAM, published in 2012, 2013 and 2014.

4. FINDINGS AND DISCUSSIONS

Organic farming in the emerging countries of the European Union (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania) is in an early stage of development, despite the fact that the rules and principles of this type of agriculture have been applied since ancient times. From the legislative and institutional standpoint, the organic agriculture sector developed at a fast rate in all the emerging countries of the European Union, national legislations being harmonized with European legislation.

As organic farming is a relatively new sector of the European agri-food economy, the official statistical data are limited. The main indicators specific to organic farming, present in most international databases and in the reports by various specialized forums in this field are the following: organic agricultural land area, the number of registered operators in organic farming (producers, processors and vendors) and the market value of organic agricultural products.

Given that the domestic market for the sale of organic products in the emerging countries in the European Union is particularly underdeveloped, as a result of the low purchasing power, most of the production is exported, mainly to Western EU countries.

In the context of the growing interest of consumers in the European Union for organic food, farmers in Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania have begun to shift their attention pn this sector.

The areas farmed under the organic system in these countries have experienced substantial growth and, in view of the fact that agricultural land is less

polluted with chemical fertilisers and pesticides, the production system applied by small producers is very close to the certified organic system, while the availability of labour in rural area is high and can be leveraged in ecological agriculture.

In all the emerging European Union countries, financial assistance provided to organic producers is substantial and tempting for farmers, which has contributed to the development of the sector.

To be certified as organic, farmed land areas must undergo a process of conversion from conventional farming to organic farming and be inspected by an accredited inspection and certification body. The length of the conversion period varies depending on the type of crops, as follows: two years for annual field crops, three years for perennial crops and plantations, and two years for pastures and fodder crops.

The share of organic, certified and under conversion areas in the total utilized agricultural area (UAA) was on the rise in each EU member state in the period 2009-2012 period (Table 1). Due to the specific characteristic of agriculture in each emerging country, the share of organic land in total utilized agricultural area is different, so that in the year 2012 in Estonia 142,065 ha were organically grown, accounting for 14.9% of the UAA, whereas in Poland 661,956 ha were organically farmed, i.e. 4.6% of the UAA.

Table 1
Evolution of organic crops area in the emerging countries of the European Union

Country	Variable	U.M.	2009	2010	2011	2012
Bulgaria	Share of total organic crop area*	%	0.2	0.5	0.5	0.8
	Total organic crops area	Ha	12,320	25,647	25,022	39,138
	Share of fully converted crop**	%	40	49	36	31
	Share of crop area under conversion***	%	60	51	64	69
Estonia	Share of total organic crop area*	%	11.0	12.8	14.1	14.9
	Total organic crops area	Ha	102,305	121,569	133,779	142,065
	Share of fully converted crop**	%	74	68	76	84
	Share of crop area under conversion***	%	26	32	24	16
Latvia	Share of total organic crop area*	%	8.7	9.2	10.1	10.6
	Total organic crops area	Ha	160,175	166,320	184,095	195,658
	Share of fully converted crop**	%	88	85	71	74
	Share of crop area under conversion***	%	12	15	29	26
Lithuania	Share of total organic crop area*	%	4.8	5.2	5.4	5.5
	Total organic crops area	Ha	129,056	143,644	152,306	156,539
	Share of fully converted crop**	%	82	72	65	73
	Share of crop area under conversion***	%	18	28	35	27
Hungary	Share of total organic crop area*	%	2.4	2.4	2.3	2.4
	Total organic crops area	Ha	140,292	127,605	124,402	130,609
	Share of fully converted crop**	%	79	76	82	81
	Share of crop area under conversion***	%	21	24	18	19
Poland	Share of total organic crop area*	%	2.3	3.3	4.1	4.6
	Total organic crops area	Ha	367,062	521,970	609,412	661,956
	Share of fully converted crop**	%	60	59	62	69
	Share of crop area under conversion***	%	40	41	38	31
Romania	Share of total organic crop area*	%	1.2	1.3	1.6	2.1
	Total organic crops area	Ha	168,288	182,705	229,946	288,261
	Share of fully converted crop**	%	50	45	42	36
	Share of crop area under conversion***	%	50	55	58	64

Source: Calculations based on data from EUROSTAT.

*Share of total organic crop area out of total Utilized Agricultural Area.

**Share of fully converted crop area out of total Organic Crops Area.

***Share of crop area under conversion out of total Organic Crops Area.

In most emerging countries, over 70% of organic agricultural land is certified, being enlarged in the period 2009-2012, which shows that organic farming is becoming a sector in its own right, not merely a circumstantial option.

4.1. Organic agriculture in Bulgaria

Bulgaria enjoys a temperate climate, characterized by cold and humid winters, and warm and dry summers. The landscape is mostly mountainous with lowlands in the north and in the southeast. The total agricultural land area of the country is 3.8 million hectares, out of which 2.5 million ha is arable land. The average size of agricultural holdings in Bulgaria is 24 hectares, most farms being specialized in one type of activity.

Organic farming is in its early stage of development, the first manifestations of this concept having emerged in 1993 with the establishment of the first organic farm at the Agricultural University of Plovdiv (Apostolov 2012).

The share of organic crops areas in Bulgaria is very low, accounting for only 0.8% of the utilized agricultural area in 2012.

Viewed in dynamics, (Table 2), in the period 2010-2012, one can notice that organic crops areas were stable in 2010 and 2011 for all crops, while in 2012 substantial increases were noticed. The largest share of organic farmland is covered by annual crops; however it is worth noting that perennial plantations have also experienced constant growth.

In the year 2012, the areas under the organic farming system amounted to 93,138 ha, out of which the pasture and forage areas had the largest share in total area, i.e. 58%, followed by cereals with 19%, oilseeds 8% and vineyards with 5%.

Although Bulgaria accounts for the smallest organic crop areas compared to the other emerging countries in the European Union, the country ranks first in terms of the area under vineyards and on the third place after Poland and Romania in terms of the area under fruit trees and shrubs.

Table 2
Evolution of organic crop area in Bulgaria, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	25,647	25,022	39,138
Cereal area	Ha.	5,340	6,521	7,533
Temperate fruit area	Ha.	1,186	1,440	2,154
Grape area	Ha.	1,285	1,455	2,058
Oilseeds area	Ha.	1,983	2,587	3,292
Protein crop area	Ha.	0	106	48
Vegetable area	Ha.	321	584	1,308
Other categories	Ha.	15,532	12,329	22,745

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

It is worth highlighting that in the 2012 organic land areas expanded spectacularly, by about 14,000 hectares compared to 2011, this increase being

generated by the substantial financial support provided by the Government of Bulgaria to organic producers. The amount of the support ranged from EUR 120/ha for meadows and pastures to EUR 613 / ha for perennials (Alecu and Alecu 2011). As part of the 2007-2013 Rural Development Program, the European funds allocated for Bulgaria totalled EUR 241,735 thousand under Measure 214 Agro-environmental Payments (EC 2005).

4.2. Organic agriculture in Estonia

Estonia is situated in Eastern Europe, having a maritime continental climate, characterized by mild winters and cool and rainy summers. The landscape features swamp areas, with partially wooded lowland areas, with plains in the north and hills in the south. The total agricultural land area of the country is about 1.1 million hectares, out of which 610,000 hectares arable land. The vast majority of farms are specialized in field crops and livestock raising, herbivores in particular. The average area of an agricultural holding is about 40 hectares.

In Estonia organic farming began to develop as early as 1989 with the establishment of the Biodynamic Association of Estonia (Vetemaa *et al.* 2012).

Given the specific features of agriculture in Estonia, mainly characterized by cereal and fodder crops and by herbivorous livestock farming, the areas under the organic farming system present the same characteristic. In the period 2010-2012, the organic areas grew steadily by about 10% per year (Table 3). In 2012, the share of organic land areas in Estonia accounted for 14.9% of the total utilized agricultural area, placing it first among the emerging countries and second in the European Union after Austria. In the year 2012, the organic crop areas totalled 142 065 ha, with pasture and forage areas accounting for the largest share of the total area at 79%, followed by cereal with 17% and oilseeds with 2%.

Table 3
Evolution of organic crop area in Estonia, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	121,569	133,779	142,065
Cereal area	Ha.	19,271	20,493	23,626
Temperate fruit area	Ha.	415	371	507
Grape area	Ha.	0	0	1
Oilseeds area	Ha.	1,874	2,091	3,065
Protein crop area	Ha.	339	739	1,917
Vegetable area	Ha.	105	113	110
Other categories	Ha.	99,565	109,972	112,839

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

In general, organic farms in Estonia are mixed farms, combining crops and livestock farming. The average size of organic farms is about 80 hectares, but there are also farms whose area exceeds 1,000 hectares (Alecu and Alecu 2011). Most of the organic farms that are organically certified and under conversion comprise

meadows, followed by cereals, oilseeds and protein crops. Due to the cool climate, the areas planted with fruit trees and shrubs are very limited, consisting of berries and buckthorn.

Organic farming in Estonia was financially supported by the European and governmental programs. Under the 2007-2013 Rural Development Programme, Estonia was allocated European funding totalling EUR 168,710 thousand as part of Measure 214 Agro-environment (EC 2005).

4.3. Organic agriculture in Latvia

Latvia is located in Eastern Europe, enjoying a temperate maritime climate. The landscape of the country mainly consists of fertile plains, mostly covered with pine forests. The Baltic Sea coastline of Latvia is 531 km long.

The total agricultural land area of the country is about two million hectares, out of which nearly half is arable. The vast majority of farms are specialized in field crops and livestock husbandry, especially herbivores. The average area of a farm is about 17 hectares.

Organic farming has been developing since 1989, and the first joint undertakings in the field were established after 1995 (Tambovceva and Tombovceva 2013). The area farmed in accordance with the rules and principles of organic agriculture increased each year, reaching approximately 200,000 hectares by the year 2012 (Table 4), which accounts for 10.6% of the total utilized agricultural area.

Table 4
Evolution of organic crop area in Latvia, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	166,320	184,095	195,658
Cereal area	Ha.	26,699	26,257	30,771
Temperate fruit area	Ha.	509	534	431
Grape area	Ha.	0	0	0
Oilseeds area	Ha.	1,144	1,316	877
Protein crop area	Ha.	1,008	3,301	3,299
Vegetable area	Ha.	244	328	116
Other categories	Ha.	136,716	152,359	160,164

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

In 2012, the areas under organic crops totalled 195,658 ha, out of which pasture and forage areas had the highest share, i.e. 82%, followed by cereals with 16% and protein crops with 2%.

In the period 2010-2012, the highest growth was noticed in protein crops, three times as high in the year 2012 compared to 2010.

Taking into account the fact that organic land areas cannot expand much in Latvia, organic producers began to use modern agricultural equipment, which has contributed to constant growth in agricultural productivity.

The financial assistance from the European Union and the Latvian government fostered the development of organic farming sector, and increased production led

to consolidation and a boost in the market for organic products. Under the 2007-2013 Rural Development Program, Latvia was allocated European funds totalling EUR 180,055 thousand as part of Measure 214 Agri-environment (EC 2005).

In recent years, cooperatives and organic food processing companies have been established in Latvia.

4.4. Organic agriculture in Lithuania

Located in Eastern Europe, Lithuania enjoys a transitional, maritime and continental climate. The landscape consists mostly of plains, as most hills have been transformed as a result of glacial deposits.

The total agricultural land area of the country stands at 2.1 million hectares, out of which 1.5 million hectares arable land. The vast majority of farms are specialized in field crops and livestock husbandry, especially herbivores. The average farm area is about 12 hectares.

The first initiatives in the field of organic farming date back to 1987. Teachers from the Lithuanian Academy of Agriculture and a number of farmers established the Lithuanian Association of Organic Agriculture – “Gaja” in 1990 (Pilipavicius 2013).

The organic agricultural area steadily increased in the period 2010-2012 (Table 5), accounting for 5.5% of the UAA in 2012. The average organic farm size is 39 hectares, three times as high compared to conventional farm area, the largest organic farm having an area of 700 hectares (Alecu and Alecu 2011).

Among the emerging countries of the European Union, Lithuania ranks first in terms of area under protein crops and second in terms of oilseed crop area.

In 2012, there were 156,539 ha of agricultural land farmed under the organic system, out of which cereals accounted for the largest share of the total area, i.e. 43%, followed by pasture and forage crops with 36% and protein crops with 17%.

Over 70% of the area farmed according to the organic rules and principles is certified as organic, the percentage being on the rise in recent years. This demonstrates that the organic farming system is stabilized and consolidated in Lithuania.

Table 5
Evolution of organic crop area in Lithuania, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	143,644	152,306	156,539
Cereal area	Ha.	64,509	54,321	66,923
Temperate fruit area	Ha.	1,332	1,295	865
Grape area	Ha.	0	0	0
Oilseeds area	Ha.	3,349	2,321	5,513
Protein crop area	Ha.	27,754	24,387	26,486
Vegetable area	Ha.	16	82	81
Other categories	Ha.	46,684	69,900	56,671

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

Lithuania's accession to the EU is credited for growth that boosts the conversion from conventional to organic agriculture. The Lithuanian government provides financial support for the development of organic farming, while under the 2007-2013 Rural Development Program, Lithuania was allocated European funds totalling EUR 277,035 thousand as part of Measure 214 Agro-environmental payments (EC 2005).

4.5. Organic agriculture in Hungary

Hungary is located in Central Europe, on the Pannonian Plain and at the foot of the inner Western Carpathians, at an equal distance from the Atlantic Ocean and the Ural Mountains and from the Mediterranean Sea and the North Sea respectively. Hungary has a continental climate with hot summers and frequent wind phenomena.

Hungary's natural characteristics ensure favourable conditions for the agricultural sector: fertile plains, an advantageous climate and above all significant water resources. The agricultural area of the country is about 5.3 million hectares, out of which 3.3 million ha arable land. The average size of agricultural holdings is 29 hectares.

Organic farming began to develop in Hungary as early as 1980, several organizations being active in this field. The areas farmed under the organic system grew steadily in the period 2010-2012, to reach 131,000 ha in 2012 (Table 6), which accounts for 2.4% of the UAA.

In 2012, the area under organic farming totalled 130,609 ha, the pasture and forage crops accounting for the largest share of the total area with 67%, followed by grains with 21% and oilseeds with 6%.

Among the emerging countries of the European Union, Hungary ranks second in terms of areas under oilseeds and vegetable crops.

Table 6
Evolution of organic crop area in Hungary, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	127,605	124,402	130,609
Cereal area	Ha.	22,249	23,112	27,030
Temperate fruit area	Ha.	1,963	1,783	1,626
Grape area	Ha.	1,314	1,207	1,206
Oilseeds area	Ha.	7,317	7,439	8,467
Protein crop area	Ha.	1,385	1,813	2,417
Vegetable area	Ha.	1,388	1,770	1,818
Other categories	Ha.	91,989	87,278	88,045

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

Within the 2007-2013 budget, the European Union and the Government of Hungary boosted the development of organic farming, under the 2007-2013 Rural Development Program Hungary having been allocated European funds totalling EUR 873,903 thousand through Measure 214 Agri-environment (EC 2005).

4.6. Organic agriculture in Poland

Located in the north of Central Europe, Poland has a temperate, maritime and continental type climate, characterized by relatively cold winters and hot summers. The landscape consists mostly of lowlands.

Poland boasts the largest agricultural area in the region and most farmers, however the farm size is small (the average size is 7.8 ha at national level, and 3.3 ha and 16.5 ha respectively in southern Poland and in the northern regions).

In terms of arable land areas, Poland occupies a top position in the European Union (after France, Spain and Germany), yet on the basis of the soil fertility index, it is ranked in the “low” to “moderate” range.

Organic farming emerged in Poland in 1980 under the influence of experts from Demeter Association. In 1989 the Ekoland association was established, becoming in 1990 full member in the IFOAM (Metera 2005).

The agricultural area farmed according to the rules and principles of organic farming is on the rise in Poland, increasing by 10% each year in the period 2010-2012 for all crop categories (Table 7).

The agro-environmental conditions for the development of organic farming are favourable, as in Poland the use of chemicals in agriculture has always been lower than in the majority of the other European countries (Alecu and Alecu 2011).

In the year 2012, Poland ranked first among the emerging countries and fifth in the European Union after Spain, Italy, France and Germany in terms of organic agricultural area. About 70% of the area is certified as organic.

In 2012, the area farmed under the organic system totalled 661,956 ha, with pasture and forage areas accounting for most of the total area with 73%, followed by cereals with 19% and fruit trees and shrubs with 6%.

Compared to the other emerging countries in the European Union, Poland ranks first in terms of cereal, fruit trees and vegetable crop areas.

Table 7
Evolution of areas under organic crops area in Poland, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	521,970	609,412	661,956
Cereal area	Ha.	102,275	109,511	122,817
Temperate fruit area	Ha.	17,547	36,792	41,990
Grape area	Ha.	96	22	35
Oilseeds area	Ha.	2,381	1,315	1,573
Protein crop area	Ha.	4,899	4,194	5,698
Vegetable area	Ha.	5,200	7,364	9,379
Other categories	Ha.	389,572	450,224	480,464

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

The financial support for organic farming in Poland has been very important, as according to the 2007-2013 Rural Development Program, Poland was allocated European funds totalling EUR 1,853,000 thousand under Measure 214 Agri-

environment. The European Union assistance is complemented by financial support provided by the Government of Poland (EC 2005).

4.7. Organic agriculture in Romania

Romania is located in central-south-eastern Europe, its landscape being characterized by four elements: variety, proportionality, complementarity and symmetrical arrangement, given the large number of landforms, the approximately equal distribution of major landscape types (35% mountains, 35% hills and 30% plateaus and plains) and the grouping of landscape types. The climate is temperate continental, marked by influences of the steppe climate from the east, Adriatic from the southwest, oceanic from the west and northwest, all in all preserving the identity of the climate shaped by the Carpathians, the Black Sea and the Danube.

With a utilized agricultural area of 13.3 million ha (accounting for 55.8% of the area of the country) in 2010, Romania possesses significant agricultural resources in Central and Eastern Europe. Although significant areas of the utilized agricultural area are classified as disadvantaged areas, the soil conditions are particularly favourable to agricultural production activities in the southern and western regions of the country. Most of the utilised agricultural area is arable land (8.3 million ha), followed by pasture and meadows (4.5 mil. ha), permanent crops (0.3 mil. ha) and kitchen gardens (0.2 mil. ha) (NIS, 2012).

Organic farming has developed very fast in Romania since 1997, following the establishment of the first association of organic producers known as "Bioterra Association". In the period 2010-2012, the organically farmed areas experienced a weighted average annual growth rate of about 20% (Table 8).

In 2010, the total area farmed according to the organic production methods stood at 182,705 ha, out of which 55% under conversion and 45% certified organic area. In 2012, the area under organic crops increased to 288,261 ha on account of areas under conversion, while only 36% of the area was certified as organic. From this point of view, Romania ranks second to last among the emerging countries, ahead of Bulgaria.

In the year 2012, the area farmed under the organic system totalled 288 261 ha, pasture and forage areas having the largest share in total organic area with 45%, followed by cereals with 36% and oilseeds and protein crops with 16%.

Table 8
Evolution of area under organic crops in Romania, by categories of crops

	U.M.	2010	2011	2012
Total area	Ha.	182,705	229,946	288,261
Cereal area	Ha.	72,297	79,167	105,149
Temperate fruit area	Ha.	1,888	2,726	4,668
Grape area	Ha.	894	843	1,649
Oilseeds area	Ha.	45,521	46,046	43,923
Protein crop area	Ha.	5,560	3,147	2,764
Vegetable area	Ha.	732	911	893
Other categories	Ha.	55,813	97,106	129,215

Source: Calculations based on data from Willer *et al.* 2012, 2013, 2014 and EUROSTAT.

Financial support for organic farming in Romania was important, as under the 2007-2013 Rural Development Program, Romania was allocated European funds totalling EUR 817,055 thousand under Measure 214 Agri-environment (EC 2005).

5. CONCLUSIONS

Organic farming in the emerging countries in the European Union experienced significant growth in the period 2010-2012 as regards the area farmed according to the organic farming rules and principles. The financial support provided by the European Union through specific financing measures, laid down in the 2007-2013 Rural Development Program, alongside with governmental assistance, noticeably contributed to the development of this sector in all investigated countries. The diversification of organically grown crops was boosted through grants awarded by species.

In the future, organic farming is expected to develop even more in these countries, while improvements in the sector involved in processing the organic production are also expected.

The European Commission, by the adoption of the *Action Plan for the Future of Organic Production in the European Union* in 2014, outlined very clearly the goals for the development and especially the consolidation of the organic farming sector in all European Union member states.

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REFERENCES

1. Alecu, I. N., Alecu, E. (2011), *Situatia agriculturii si a exploataiilor agricole in tările membre ale Uniunii Europene*, Editura CERES, Bucureşti.
2. Apostolov, S. (2012), *Bulgaria: Boom of Organic Agriculture*, in The World of Organic Agriculture. Statistics and Emerging Trends 2012, coord. Helga Willer, Lukas Kilcher, FiBL și IFOAM.
3. Metera D. (2005), *Organic Farming in Poland*, in Organic Europe, <http://www.organic-europe.net/country-info-poland-report.html>.
4. Pilipavicius, V. (2013), *Lithuania: Country report, 2013*, in Organic Europe, <http://www.organic-europe.net/2671.html?&L=1%20onfocus%3Dblur Link%28this%29%3B>.
5. Sahota, A. (2014), *The Global Market for Organic Food and Drink*, in The World of Organic Agriculture. Statistics and Emerging Trends 2014, Coord. Willer, H., Lernoud, J., IFOAM, FiBL.
6. Tambovceva, T., Tambovceva, A. (2013), *Development of organic agriculture: case of Latvia*, Proceedings of the 2013 International Conference on Energy, Environment, Ecosystems and Development, <http://www.europment.net/library/2013/rhodes/EEED.pdf>.

7. Toader, M., Roman, Ghe., V., (2014), *Manual de agricultură generală*, Editura Terra Nostra, Iași.
8. Vetemaa, A., Mikk, M. (2012), *Organic farming in Estonia 2011*, Tallinn 2012, http://www.organic-europe.net/fileadmin/documents/countryinformation/_estonia/_vetemaa-mikk-2012-estonia-2011.pdf.
9. Willer, H. (2014), *Organic Farming in Europe*, in The World of Organic Agriculture. Statistics and Emerging Trends 2014, Coord. Willer, H., Lernoud, J., IFOAM, FiBL.
10. Willer, H., Lernoud, J. (2012), *Current Statistics on Organic Agriculture*, in The World of Organic Agriculture. Statistics and Emerging Trends 2012. Coord. Willer, Helga and Lukas Kilcher, IFOAM, Bonn and FiBL, Frick.
11. Willer, H., Lernoud, J., Home, R. (2013), *The World of Organic Agriculture. Statistics and Emerging Trends 2013: Summary*, in The World of Organic Agriculture. Statistics and Emerging Trends 2013. Coord. Willer, H., Lernoud, J., Home, R, IFOAM, FiBL.
12. Willer, H., Lernoud, J., Schlatter, B. (2014), *Current Statistics on Organic Agriculture Worldwide: Organic Area, Producers and Market*, in The World of Organic Agriculture. Statistics and Emerging Trends 2014, Coord. Willer, H., Lernoud, J., IFOAM, FiBL.
13. *** EUROSTAT http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=food_in_porg1&lang=en.
14. *** IMF. (2012) *World Economic Outlook Update New Setbacks, Further Policy Action Needed*, International Monetary Fund, <http://www.imf.org/external/pubs/ft/weo/2012/update/02/pdf/0712.pdf>.
15. *** NIS (2012) *General Agricultural Census, 2010*, National Institute of Statistics, Bucharest.
16. *** EC. (2005) *Rural Development Programs 2007-2013, Annex E. Financial Plans per Member State*, Programming period 2007-2013, http://ec.europa.eu/agriculture/statistics/rural-development/2012/annex-e_en.pdf.