# ORGANIC AGRICULTURE AND FOOD PRODUCTION UNDER EU HIGH QUALITY SCHEMES: EVOLUTION AND DYNAMICS IN ROMANIA AND OTHER MEMBER STATES

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## ABSTRACT

*In Romania, the area under organic crops multiplied 13 times between 2000-2016. Presently, the domestic demand is higher than the domestic supply and imports are needed, especially of processed products; at the same time, Romania is exporting organic products to Western countries. The EU high quality schemes include other categories of manufactured food products which are specially registered in the EU-DOOR database; Romania is present with four registered products only. The present paper is analyzing the evolution and dynamics of the organic production and of the food products included in the national and EU high quality schemes in Romania as compared to other EU countries. The upward trend is expected to continue, and the financial support foreseen for the period 2014-2020 will further encourage the development of this sector.*

## INTRODUCTION

Organic farming has emerged towards the end of the 20th century, and has gained the appreciation and interest of consumers around the world. There is a growing demand for good quality food in the EU, but also for better farming practices based on agro-ecological approaches. The double role of organic farming is recognized: on the one hand, it meets consumer demand for high quality food, on the other hand it plays an important role in the provision of public goods (such as protection and improvement of water and soil quality as a result of organic farming practices) [2]. Organic farming was initially defined and regulated by EU Regulation (EEC) 2092/91, and support payments for conversion and maintenance of land in organic farming were introduced into the CAP in the early 1990s.

In order to promote and strengthen the organic sector (farming, processing and distribution), the EU Commission adopted the first European Action Plan for Organic Food and Farming in 2004 [2]. In the following years, the Commission reviewed, improved and harmonized the legislation on organic production; the new European logo and labelling rules for organic products entered into force in 2010.

In 2013, 15 Member States had their own National Action Plans for Organic Farming [11]; although this sector showed a rapid growth in the last 15 years, currently, Romania still does not have its own National Plan for Organic Farming.

A new Action Plan for the future of Organic Production in the EU was published in 2014, focusing on three priority domains: (i) to increase competitiveness of EU organic producers; (ii) consolidating and increasing consumer confidence in the European scheme for organic food and farming, and (iii) reinforce the external dimension of the EU organic production scheme [5].

## MATERIAL AND METHOD

The present paper is based upon an extensive documentation on organic farming and European and national high-quality schemes and its application in the EU countries and in Romania. The specific EU and Romanian legislation was reviewed, as well as the relevant literature.

The Romanian National Rural Development Plans (NRDP) for the two programming periods (2007-2013 and 2014-2020) were the source for the analysis of the financial support for organic farming, completed with data from Eurostat and the Romanian Ministry of Agriculture and Rural Development.

## RESULTS AND DISCUSSIONS

### ORGANIC FARMING

Since the 1990's, areas in conversion and under organic cultivation have grown significantly, as well as the number of producers and processors, production volume, product range, sales, exports and consumption.

The EU organic sector has grown rapidly in recent years. According to the latest Eurostat data, in 2016 the total area under organic cultivation (including in-conversion area) in EU-28 doubled as compared to 2002 (11.9 million ha compared to 5.7 million ha); with an average annual increase of about. 500,000 ha in the last 10 years, so that in 2016 the area under organic cultivation accounted for 6.9% of the total Utilized Agricultural Area (UAA) at European level.

In a hierarchy of the Member States with the largest areas under organic cultivation in 2016, Spain ranks first with 2 million ha, followed by Italy and France (each with about 1.5 million ha) and Germany (1.1 million ha), these four countries cumulating 51% of the total area under organic cultivation in EU-28. Among the EU-13 countries, the largest areas under organic cultivation in 2016 were found in Poland (0.537 million ha) and in the Czech Republic (0.489 million ha); Romania cultivates in organic regime only 226 thousand ha.

In 2013, in Europe there were about 185,000 organic farms, of which 81% were on the territory of the old Member States (EU-15), covering 78% of Europe's organic area. Eurostat data show that the EU-13 countries (which have joined since 2004 onward) have adopted this development direction, coming up with a higher growth rate (12% per year), and the number of organic farms rising almost 10 times between 2003 and 2015 [7].

In the structure of organic areas in the EU-28, the largest share is taken by pastures (58%), followed by cereals (20%), and permanent crops (vineyards and orchards - 15%) (2015 data). In livestock production, sheep (42%) and cattle (34%) were the most important after poultry (mainly laying hens due to the high demand for organic eggs), but it is worth mentioning also pig husbandry (9%) and goat husbandry (7%) [7].

The development of organic farming had different characteristics in the group of old Member States (EU-15) and the group of new member countries (EU-13). In the EU-15, areas under organic cultivation have been steadily growing over the past decade, as was the organic products market. The range of products is diverse, and there is an important demand for this product category, which is covered by both domestic production and imports. The consumer interest and public support, as well as the implementation of the European Action Plan for Organic Farming contributed to this development.

The new Member States (EU-13) have also developed their organic farming sector, especially after EU accession, driven by the adoption of European rules in the field, the financial support provided through the National Rural Development Programs, and by the export opportunities to EU-15 countries. Although organic areas and productions have increased significantly, the processing industry has grown at a much lower rate. As a result, the organic product market has grown to a lesser extent, the market shares of the products are much lower, the supply of processed products is low and the per capita consumption is much lower, given also the lower purchasing power of consumers in the EU-13 countries. In these countries, domestic demand for organic agricultural products is mostly covered by domestic production to a large extent, while the vast majority of processed organic products are imported.

The global organic products market has grown 2.5 times between 2004 (USD 29 billion) and 2014 (USD 72 billion), as well as in the EU (from EUR 10 billion in 2004 to EUR 24 billion in 2014). Worldwide, the largest organic market is in the USA (43% of 2014 sales), followed by the EU (38%), and by China (6%), which is the market with the highest growth rate (table 1).

***Table 1***

**Retail sales, per capita consumption and exports in countries with major organic products markets (2014)**

| Country | Retail sales (EUR million) | Per capita consumption (EUR) | Exports (EUR million) |
|---|---|---|---|
| USA | 27,062 | 85 | 2,409 |
| Germany | 7,910 | 97 | ... |
| France | 4,830 | 73 | 435 |
| China | 3,701 | 3 | 467 |
| Canada | 2,728 | 77 | 378 |
| United Kingdom | 2,307 | 36 | ... |
| Italy | 2,145 | 35 | 1,420 |
| Switzerland | 1,817 | 221 | ... |
| **Romania** | **80** | **4** | **200** |

*Source: FIBL&IFOAM – Organics International (2016): The World of Organic Agriculture. Statistics and emerging trends 2016, p.66.*

In terms of the share of areas under organic farming in the UAA (in 2015), Austria ranks first in the EU-28 (19%), followed by Sweden (15%) and Estonia (13%). Romania's organic area is only 1.6% of its UAA, thus standing below the European average of 6.2%.

Germany has the highest market share of organic products and has the largest organic product market, with annual sales of nearly EUR 2.5 billion. Regarding the consumption of organic products, the highest levels are found in northern Europe, and the lowest in southern Europe.

The organic farming sector has been increasingly important for Romanian producers. Positive developments in areas, livestock and production in the organic farming sector show the existing potential, initiative, growth prospects and growing consumer demand (tables 2 to 4). Areas under organic cultivation have grown significantly: from 17.4 thousand hectares in 2000, to 170 thousand hectares in 2006, to 250 thousand hectares in 2007 (when Romania ranked 35-th in the world in terms of area under organic cultivation, and 38-th in terms of organic farms number). In the post-accession period, due to the tightening of regulations on organic farming, the cultivated area varied, decreasing immediately after accession (182.7 thousand hectares in 2010), followed by a recovery (301 thousand hectares in 2013), and a further decrease down to 226.3 thousand hectares in 2016 (table 2).

*Table 2*

**Area under organic cultivation and organic operators* in Romania**

| Indicator | 2007 | 2010 | 2013 | 2016 | Average 2000-2006 | Average 2007-2016 | Index 2000-2006 |
|---|---|---|---|---|---|---|---|
| | | | | | | | 2007-2016 |
| Number of registered organic operators | 3,834 | 3,155 | 15,194 | 10,562 | 3,409 | 9,211 | 2.7 |
| Utilized Agricultural Area (UAA) (ha) | 131,456 | 182,706 | 301,148 | 226,309 | 67,759 | 220,342 | 3.3 |
| Crops in arable land (ha) | 65,112 | 148,034 | 173,794 | 156,678 | 45,605 | 140,539 | 3.1 |
| Cereals (ha) | 32,222 | 72,298 | 109,105 | 75,198 | 14,125 | 77,689 | 5.5 |

| Indicator | 2007 | 2010 | 2013 | 2016 | Average 2000-2006 | Average 2007-2016 | Index 2000-2006 / 2007-2016 |
|---|---|---|---|---|---|---|---|
| Pulses and protein crops (ha) | 1,394 | 5,560 | 2,397 | 2,204 | 7,777 | 2,857 | 0.4 |
| Vegetables (ha) | 310 | 734 | 1,068 | 1,175 | 356 | 884 | 2.5 |
| Vineyards and orchards (ha) | 954 | 3,093 | 9,400 | 12,020 | 214 | 6,136 | 28.6 |
| Pastures and hayfields (ha) | 57,600 | 31,579 | 103,702 | 57,612 | 27,461 | 69,130 | 2.5 |

Note: *The "organic operators" group includes farmers, processors and exporters/importers of organic products.

*Source: calculations using data from Eurostat and Romanian Ministry of Agriculture and Rural Development (MARD).*

There was an upward trend in all crops in areas (table 2) and productions (table 3), except for legumes and proteins. Otherwise, the cultivated areas have increased considerably. The most spectacular growth occurred in certified or in-conversion areas under organic vineyards and orchards.

Organic production also experienced upward trends (table 3). Although the production level is several times higher than 5-6 years ago, domestic supply does not cover domestic demand, leaving room for organic products, mainly processed products.

On the other hand, Romania exports organic products to Western countries (Germany, Italy, Switzerland, the Netherlands), and efforts are made to penetrate the US market. Fruits are sold very well, especially the fruit of the forest, the volume of certified fruit exports rising year on year.

*Table 3*

**Productions in organic agriculture in Romania (tons)**

| Crop | 2013 | 2014 | 2015 | 2016 | Average 2000-2006 | Average 2007-2016 | Index 2007-2016 / 2000-2006 |
|---|---|---|---|---|---|---|---|
| Cereals | 147,831 | 277,560 | 239,394 | 208,575 | 21,424 | 218,340 | 10.2 |
| Pulses and protein crops | 1,966 | 3,659 | 2,276 | 2,009 | 1,539 | 2,478 | 1.6 |
| Vegetables | … | 2,336 | 3,663 | 3,352 | 6,074 | 3,117 | 0.5 |
| Fruits | … | 10,002 | 7,098 | 16,330 | 201 | 11,143 | 55.4 |

*Source: calculations using data from Eurostat and Romanian MARD.*

The number of animals in organic husbandry farms increased as well in the post-accession period in Romania, with the exception of pigs, but the herds are still very low (table 4). At EU-28 level, in 2015, the organic certified livestock included: 3.7 million bovines, 0.97 million pigs, 4.5 million sheep, 0.7 million goats and 31.7 million poultry. Data on organic livestock production in Romania is scarce, but there are some recent Eurostat data, such as milk (2014): 33,103 tons of cow milk; 2,445 tons of sheep milk; 398 tons of goat milk; processed dairy products (2014): 1000 tons of drinking milk; 42 tons of cream; 40 tons of fermented products (yoghurt, etc.); cheese (2016): 4016 tons; organic eggs (2015): 22.7 million pieces. Organic goat milk and the resulting dairy products are highly sought after both on the domestic and foreign markets, which resulted in an increase in herds.

*Table 4*

**Animal husbandry in organic farms in Romania**

| Number of heads | 2007 | 2010 | 2013 | 2016 | Average 2000-2006 | Average 2007-2016 | Index 2007-2016 / 2000-2006 |
|---|---|---|---|---|---|---|---|
| Bovines | 6,985 | 5,358 | 20,113 | 20,093 | 11,365 | 13,137 | 1.2 |
| Pigs | 1,174 | 320 | 258 | 20 | 1,652 | 443 | 0.3 |
| Sheep | 59,680 | 18,883 | 80,309 | 66,401 | 86,180 | 56,318 | 0.7 |
| Goats | 215 | 1,093 | 3,032 | 2,618 | 117 | 1,740 | 14.9 |
| Poultry | 4,320 | 21,580 | 74,220 | 63,254 | 4,300 | 40,844 | 9.5 |

*Source: calculations using data from Eurostat and Romanian MARD.*

Organic honey production tripled in the post-accession period, from 1225 tons (in 2006) to 3489 tons (in 2016) and, along with forest fruits, is one of the most sought-after products on Western and USA markets.

The growth in both organic cultivated areas and livestock since as early as the pre-accession period shows that the Romanian organic farmers were increasingly interested in the fact that organic farming can become a viable source of income, with prices being significantly higher for organic products than for products from conventional agriculture, thus laying the basis for this specific activity which exploits market niches, on both domestic and international markets.

After accession, Romanian farmers were forced to strictly observe the EU regulations on quality, inspection and certification. An important facility came from the change in the Romanian legislation which authorized national certification bodies: before accession, certification of farms and organic products was made by bodies from Hungary, Germany and Austria at very high costs, often prohibitive for the Romanian producers.

Also, after accession, farmers had access to funding through the Common Agricultural Policy, from Pillar I and through specific support measures from National Rural Development Plan (NRDP) 2007-2014.

Member States were allowed to retain up to 10% of their national financial ceilings for supporting specific types of farming and quality (according to the Mid-Term Review of the CAP), and did so for organic farming under “Article 68 measure” (of Council Regulation 73/2009). Romania was among the seven Member States that used this opportunity to support organic farming from Pillar I (together with Denmark, France, Greece, Italy, Spain and Sweden). Romania implemented conversion payments under Article 68 in 2010-2013, while organic maintenance payments were funded through NRDP Measure 214.

Under Article 68, support was granted in the form of a payment per farm in conversion for annual and perennial crops, poultry, bovine animals, sheep and goats and beekeeping. Payment rates varied on average between EUR 500 and EUR 3,800 per holding depending on the type of farming and the size of the farm, and was subject to annual changes; the funds allocated to this measure amounted to EUR 3.1 million per year in 2010-2013 [3].

Under Axis II, Measure 214 - Agri-environment payments (where support for organic farming was included), from the financial allocation of EUR 1428,4 million on 31 December. 2015 payments were made in the amount of EUR 1377.9 million (96.5%), which supported 321.544 farms, covering 2.3 million hectares. At EU-28 level, measure 214 accounted for approx. 24% of total EAFRD allocations [4].

For the 2014-2020 period, through the M11 measure of the NRDP - support for organic farming, the financial resources dedicated to organic agriculture were separated from those dedicated to agri-environment measures. For organic farming, the financial allocation is EUR 236.4 million for a targeted organic area of 226 thousand hectares [9].

## PRODUCTS INCLUDED IN THE EUROPEAN HIGH-QUALITY SCHEMES

Besides the organic products, there are three categories of food products covered by special regulatory acts (Regulation (EU) No 1151/2012):

- PDO product (Protected Designation of Origin) is a product originating from a particular place, or region, or country. The quality or characteristics of the product are due to the geographical environment with its own natural and human factors, and all the production stages take place in the defined geographical area.

- PGI product (Protected Geographical Indication) is a product originating from a specific place, region or country; and a certain quality, reputation or other characteristic can be attributed primarily to the geographical origin of the product; at least one of the production stages takes place in the defined geographical area.

- STG product (Traditional Specialty Guaranteed) is a product resulting from a production or processing process or has a composition that is consistent with the traditional practice of obtaining the product or foodstuff; is a specific product or food produced from traditional raw materials or ingredients.

The inclusion of a product in either of the three categories requires a complex dossier to be scrutinized at national level (in MADR), then at EU level for verification, attestation and final registration in European registries and DOOR database [1] containing the agricultural or food product included in the high-quality schemes.

After accession, Romania has neglected for a period the need to protect and promote its agricultural and food products of the best tradition and quality on the Single Market, so the country is on the last places in the EU to register these types of products in the DOOR database. To date, Romania is registered with a single PDO product (“Telemeaua de Ibănești”), and 3 PGI products (“Magiunul de Topoloveni”, “Salamul de Sibiu” and “Novacul afumat de Ţara Bârsei”). For comparison, most of PDO, PGI and STG products are registered by Italy (319), France (271), Germany (97), Poland (51), Czech Republic (37), Hungary (18), Bulgaria (8).

Alcoholic beverages can be protected as well at EU level through Protected Geographical Indications; currently, Romania is registered with 5 varieties of wine spirit and 14 varieties of fruit spirits.

The European Commission has set up a system which can be applied to optional quality terms [6], to help producers communicate on the internal market the characteristics or properties that add value to their own agricultural products. Such a voluntary quality statement is a "mountain product" (introduced very recently in Romania by MADR Order 52/2017), defined as a product destined for human consumption, in which the raw materials, as well as the feed for the farm animals come mainly from mountain areas; in the case of processed products, processing also takes place in mountain areas; and mountain areas are delineated under the 2014-2020 National Rural Development Program. At present (September 2017), 6 milk products are already registered in the National Register of Mountain Products.

## PRODUCTS INCLUDED IN NATIONAL QUALITY SYSTEMS

The *Register of Nationally Protected Quality Systems* currently includes two products (“Cârnații de Pleșcoi” and “Scrumbia de Dunăre Afumată”) that have passed the national assessment and have been submitted to the EU for obtaining PGI-s.

The *Romanian Traditional Product* was originally defined (MADR Order 690/2004 for the approval of the Norm regarding the conditions and criteria for the attestation of traditional products) as a foodstuff manufactured on the Romanian national territory and for which local raw materials are used, which does not contain food additives, which presents a traditional recipe, a production and / or processing mode and a traditional technological process, and which is distinguished from other similar products belonging to the same category.

The ambiguous definition and lack of proper control resulted in the fact that by the end of 2010, the MADR had registered a number of 4402 Romanian traditional products: 1541 (35%) meat products, 1535 (34.9%) dairy products, 750 (17%) bakery products, 285 beverages, 193 fruit and vegetable products (juices and jams) and 11 fish products.

Subsequent checks have shown that in many cases, the products were counterfeit or industrially processed products, declared as "traditional products" only to be sold at unjustified higher prices.

By a new MADR Order (724/2013), much more rigorous retesting of all previously declared products as "traditional" and their enrollment into a new register was imposed. The current National Traditional Product Register (NTPR) comprises 579 well-verified traditional products, of which 34% beverages, 22% dairy products, 14% bread, bakery and pastry products, 11% vegetables and fruits products, 3% fish products, and 16% other products.

The *Consecrated Romanian Recipes* are defined as food products made strictly observing the composition and recipe used more than 30 years before the entry into force of MADR Order 394/2014. These recipes (after certification) are entered in the National Register of Consecrated Romanian Recipes (RCRR). These products should be labeled with a specific logo; at present (2017), 129 recipes (bakery, meat and dairy products, processed fruit and vegetables products) are registered in the RCRR.

## CONCLUSIONS

The organic farming sector has been on a continuous upward trend in the past decade, in terms of cultivated areas, livestock numbers, production, number of certified farms and operators in the production and marketing area. Although most of the organic farms, cultivated areas and production are located in the EU-15, in the last few years the EU-13 countries have significantly developed their organic farming sector as well.

In Romania, the EU accession has brought additional funds for the development of organic farming; the organization and management of organic products chains and the strict implementation of the specific inspection and certification system provisions ensured the authenticity and quality of the products.

Efforts have also been made to promote the concept of organic farming in order to raise consumer awareness on the benefits of organic products consumption, but the application of imposed production technologies which are less efficient than traditional farming, the additional costs incurred by the obligation of passing the products through the inspection and certification system, and ultimately the higher product quality is reflected in higher prices as compared to conventional agri-food products.

The income of many Romanian consumers is too low to afford these products, but the organic products sell very well as exports to richer countries.

Romania has an important potential for organic farming, and this sector showed a dynamic evolution in the vegetable and animal production, but to a lesser extent in the processing of organic food.

The objectives, principles and rules applicable to organic production are foreseen in the related Community and national legislation. These rules, together with the definition of the production methods in the crop, livestock and aquaculture production sector, also regulate the aspects of the distribution system: inspection, certification, processing, labeling, domestic and international trade.

The provisions on labeling of organic products (Regulation (EC) No 834/2007 and Regulation 889/2008) are very precise and aim at providing consumers with full confidence in organic products as high-quality products obtained and certified in accordance with strict rules. Last but not least, the removal of counterfeits, which bring moral and material damage to producers, is also considered.

The upward trend in organic production is present in Romania and other Member States, and the financial support foreseen in 2014-2020 will further encourage the development of this sector.

The inclusion of several Romanian products in the European Register of High-Quality Systems and Protected Geographical Indications will contribute to increase the market value of traditional Romanian products, to more opportunities to access the global markets and to rising the awareness of European consumers regarding the quality of products with tradition, which are part of the Romanian culture.

The rigor of quality controls for registering and maintaining in time the quality of products entered in the National Register of Traditional Products, in the National Register of Romanian Consecrated Recipes and in the National Register of Mountain Products will contribute to the development of a market of good quality food, to the restoration of the links between the Romanian producers and Romanian consumers, and basically, to regaining the domestic market by the Romanian food products.

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