

## ORGANIC FARMING BETWEEN THE CARPATHIAN AND BALKAN MOUNTAINS

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### **Abstract**

*This article presents a parallel between the two countries in Eastern Europe on organic farming, namely Romania and Serbia. Throughout the paper are developed common elements and differences between the two countries on agricultural areas in the ecological system, certified organic products, their sales markets, the criteria for certification of organic products, associations and representative companies and Swot analysis of each Organic farming. It was analyzed the period from 2000 until present day, during which the concept of organic farming was implemented, becoming more effective by practicing it and by supporting both governments through laws and EU directives. Due to high agricultural potential that both Romania and Serbia have, both countries could become an important source of green products for both the European Union and the world for a long time.*

**Keywords:** biological certification, organic farming, Swot analysis

### **INTRODUCTION**

Organic agriculture is part of a wide spectrum of methodologies that support the environment being based on a minimum external input and avoiding synthetic fertilizers and pesticides.

The organic farming represents an alternative to the traditional agriculture as a consequence of inappropriate functioning and because of the causes that determined a weakened resistance of the plants, animal health, soil quality and thus human health.

The organic agriculture is based, in principle, on increasing the organic matter in the soil by using natural, organic fertilizers.

The main purpose of this agriculture is to optimize the health and productivity of the communities interdependent in soil, of plants, animal and humans. "Organic" is a labeling term that indicates products obtained accordingly with the standards of organic production, and certified by a legal authority constituted in this regard.

The objectives of organic agriculture are the same for vegetables and animal products including the application of

production methods that do not harm the environment, rational exploitation of rural space, care for the animals' comfort and getting high quality agricultural products.

The information above can be found in theory as well as in practice in agricultural development in Romania and Serbia, both countries successfully implemented the Organic farming concept at national level. Important steps were done in this segment, these countries became one of the strategic leaders of ecological products, at European level but also worldwide.

Both countries have favorable conditions for promoting the Organic farming: fertile and productive soils, as the chemistry and technology did not reach the levels of highly industrialized countries.

The agriculture is still based on using clean technologies, so there is the possibility of delimiting ecological perimeters, not polluted, where the Organic farming practices can be done.

In 2012, the area cultivated in ecological system in Romania was 450.000 ha, while the wild flora cultures are collected from a surface of approximately 520.000 ha.

The areas from the ecological system were with 45% higher in 2012 versus 2011, and they represent approximately 3.38% of the total agricultural used surface in Romania. In Serbia, in 2012 the cultures from the ecological system, including vegetables, fruits, cereals and pastures were around 826.000 ha, out of which 40% are perennial crops, approximately 16% annual crops and the pastures are around 43%.

## **MATERIALS AND METHODS**

Analyzed period is between 2000 and today, and the data is provided from the information posted online by the Romanian Agricultural Ministry, Serbian Agricultural Ministry but also from the websites of agro-ecological organizations from the two countries.

There are lots of supporters of this kind of agriculture both in Romania and in Serbia. For example, in Romania there are “Asociația Operatorilor din Agricultură ecologică – Bio Romania” (located in Stefan cel Mare, Calarasi county), “Societatea pentru o Agricultură Ecologică (ClujNapoca), “Fundatia Academică pentru Progres Rural – Terranostra”(from Iasi), “Asociația Națională a Consultanților din Agricultură”(from Bucharest).

In Serbia we can find “Organic Serbia” – nongovernmental organization that represents the entire national agricultural area that has as members “Zadugar” (Ljubovija), “Royal Eco Food” (Belgrade), “Nectar” (Novi Sad), “Agropartner” (Lucani).

As any activity domain, the Organic farming is regulated by norms and laws under which this functions and develops so that the rules of commerce, production and distribution are respected.

This helps avoiding a weaker safety and security of humans and environment protection. Both governments adopted a series of laws that drive the development of Organic farming through good practices.

Further on, ordinances are present, that provide financial support through subventions to the farmers based on the cultures type.

The shared program of both countries sustains the development of Organic farming is called “The National Program of Rural Development 2007 – 2013”.

Romania is represented by the following measures: Measure 121 – “Agricultural Exploitation Modernization”; Measure 123 “The Increase of Added Value of Agricultural and Forestry Products”; Measure 214 – “Agro-Environment Payments” – which aims to encourage the farmers to continue with the application of production methods compatible with protection and improvement of the environment.

The first law which regards the Organic farming in Serbia is dated in 2001 when it was issued by the Federal Republic of Yugoslavia. In 2006 the second law regarding biological production and organic products was published in the Serbian Official Monitor (#62/2006).

In May 2010 a new law regarding the Organic farming was in Parliament, and was published in January 1<sup>st</sup>, 2011.

This law was elaborated in conformity with the EU legislation regarding the biological agriculture (EC #834/2007 and its application norms).

The financial support from the authorities is around few thousands of Euro for the farmers provided as subventions in order to help them certify their products but also for covering the loss in case of damages done by the weather, payments of insurance fee but also for technical support and promoting the ecological products. Agricultural study is very developed, many young persons are qualified in the ecological field starting even from primary school.

The information is available starting from very small age, and they can deepen their knowledge at the universities, but even further as masters and PhD programs are available.

An agreement was signed between the Serbian government and GIZ Germany (Germany’s International Cooperation Agency) which implements development projects in behalf of Federal Ministry for Economic Cooperation and Development (BMZ), but also of other Federal Ministries and international institutions and organizations that support and promote from all points of view the agricultural domain in Serbia.

In education, the Organic farming is represented by 33 secondary agricultural schools, which provide training for 4000 young students (agricultural technicians) every year.

After graduation, they can continue the studies at the universities like Faculty of Agriculture and Forestry of the University of Belgrade, Faculty of Agriculture at the University of Novi Sad, Faculty of Veterinary Medicine in Belgrade, but also in other faculties from Subotica and Nis (Kalentić, 2013).

In order to improve the agricultural education, a partnership was signed between the University of Belgrade and Novi Sand in which the Serbian students can go and study at the Kassel University from Germany.

In Romania, the agricultural education is in the school program from technological high schools, where the young farmers can receive the diploma as agricultural technician.

Like in Serbia, they can continue the studies at the universities from the big cities like: University of Agronomic Sciences and Veterinary Medicine from Bucharest, University of Agricultural Sciences and Veterinary Medicine from Cluj-Napoca, University of Agricultural Sciences and Veterinary Medicine Ionescu de la Brad from Iasi, University of Agricultural Sciences and Veterinary Medicine of Banat from Timișoara, Ecological University of Bucharest.

As for future perspectives of this economic segment, both countries have great objectives regarding the development of the sector in the long term.

For example, Romania has as a quality objective to put the Organic farming in the center of the Romanian agriculture as a engine of sustainable development.

As quantitative objective the aim is to: increase the areas cultivated in Organic farming; diversify the assortment of processed products; extend the internal market of ecological food; create stock for the intra-community commerce and export to third parties; professional development of the parties involved in Organic farming: trainers, producers, processors, inspectors, ministry experts, importers, exporters; create groups of producers to extend the production market and commercialization of ecological products; grant special attention on the impact of the agricultural system on the environment and to conserve the biodiversity, wildlife and natural habitats.

Romania and Serbia are two countries with approximately the same objectives and I hope with the same perspectives.

Thus, I have to say that Serbian people focused on the development of internal market, on efficient evaluation of ecological products in conformity with the EU regulations, promoting the export for the European and world markets, applying and monitoring the National Action Plan regarding the Organic farming.

## RESULTS AND DISCUSSIONS

In this chapter we will analyze what products are grown in ecological regime in Romania and Serbia, but also their evolution from 2007 till present and the critics of certification used by them.

Analyzing the areas cultivated with main cultures in 2007, it can be seen that 32.222 ha are areas dedicated to cereals and approximately 27.713 ha oilseeds and proteins. Pastures and hayfields have 57.600 ha.

For 2012, the surfaces with pastures and fodder have the largest share out of the total – 44% (approx. 165.000 ha), followed by the cereals – 29% (approx. 130.000 ha), oilseeds and proteins 22% (105.000 ha).

The surfaces cultivated with fruit trees; vine and vegetables have the lowest share, 2% and 1%. In the animal sector, in 2012, it was recorded an increase of the number of animals bred by the ecological production method, especially in sheep and goats – 160.000, 85.000 laying hens, and 60.000 dairy cows.

Regarding the apiarian sector, in 2012 it was recorded a number of 102.881 bee families. Starting with 2010 the number of operators increased yearly approximately 3 times versus the previous year.

In 2012 out of the total of 26.736 producers, 103 are from the processing segment, 211 from commerce and 26.390 are agricultural producers.

Organic farming does not use synthetic fertilizers and pesticides, growth stimulators and regulators, hormones, antibiotics and intensive breeding system of animals. Genetically modified organisms and their derived are strictly forbidden in the Organic farming.

Going from conventional agriculture to the ecological one, is done through the conversion period which in the vegetal production has 2 years for annual cultures and 3 years for perennial ones.

On the labels from the ecological products, the following mentions are mandatory, specific to the ecological agricultural system: refers to the ecological production mode, logo, name and code of the inspection and certification organism that performed the inspection and issued the certificate of ecological product, and starting with 2006 the “ae” logo (Figure 1).



Figure 1 Organic Certificate of Romania

The “ae” logo guarantees that the product with this label comes from the Organic farming and is certified by a control organism, allowing the consumer an easy identification of these products on the market.

In Serbia, the ecological production is structured as following: fruits production has the highest share from the organic zone, with a total of 46.36%.

The pastures and hayfields are spread on 7.57% from the arable land and vegetables are grown on 4.77%.

Out of the total area of ecological production, perennial plants are cultivated on 46.7% and annual on approximately 46%. Agricultural cooperatives are present and are considered important business partners for foreign investors as they operate on large agricultural surfaces with vegetables, fruits and cereals. Currently there are 180 active companies that refrigerate and conserve fruits and vegetables, their capacity being 600.000 tones. Additionally there are 80 companies that deal with hot food processing, with a capacity of 5-600.000 tones and approximately 40 companies that produce juices from ecologic fruits and vegetables (Figure 2).

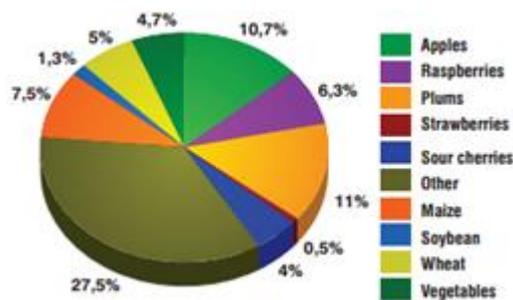


Figure 2 Structure of organic plant production in ha (2013)

Certifications criteria are not very different from the Romanian ones especially that they are in conformity with the legislation of the European Union.

This is based on the following set of rules: it is forbidden to use genetically modified organisms; it is forbidden to use irradiations; the used soil must be kept safe of chemicals for several years before it is used for growing ecological products; it is forbidden to use pesticide and synthetic fertilizers.

Like in Romania, the ecological product is highlighted through a logo as in this shape and proves that the respective products are certified by the profile companies approved by the Ministry of Agriculture from Serbia (Figure 3).



Figure 3 Organic Certificate of Serbia

In Romania, a large amount of the products received in the Organic farming was for export. A percentage of around 70-80% of the ecological products is exported yearly.

The import of ecological products increased every year with the involvement of the hypermarkets in the retail distribution. In 2007 the imports value was approximately 5 million Euro, while in 2011 it reached a value of approximately 75 million Euro (estimations – according with the existing data in the market).

Germany is the most important destination for the commerce with ecological products from Serbia, with a market share of 31%, followed by France (17%), Great Britain (10%) and Italy (8%). Except the fact that it is a big consumer (74 EUR per capita) and a producer of ecological food (1 million ha in Organic farming), Germany is also a big importer of such products. Depending on the type of product, the imports vary between 2 and 95% out of the value of the products in the market, for products that can be produced in Germany. Fruits and vegetables are the best sold products on the European markets (Kalentić, 2013).

**SWOT** analysis of the two states in Organic farming field: (Alexandru P. ,2009 ; Kalentić, 2013).

### **Romania:**

#### *Strengths:*

Fertile and productive soils, agriculture based on technologies that do not affect the environment, organic fertilizers used (compost, green fertilizers, natural minerals, seaweeds), continuous events for training and promoting the concept of Organic farming, existence of a policy of regulations for institutes and organizations that promote ecological products, legal frame adapted to the European Union requirements.

#### *Weaknesses:*

Poor development of internal market for ecological products, poor promotion of ecological products, investors are quitting this type of agriculture, low level of returns on investments, commercial price of ecological products is much higher than of conventional ones.

#### *Opportunities:*

Financial support for Organic farming, inspection and certification tax for the conversion period, demand for the ecological products increases at international level, Organic farming can become an important financial resource for the rural environment, ecological products export is one of the five strategic points of Romania.

#### *Threats:*

Fake ecological products on the market; conventional areas are in the very next vicinity

of the ecological ones, old population in the rural environment, limited sectors for processing and commercialization of ecological products.

### **Serbia:**

#### *Strengths:*

National Action Plan in place, legal framework improving, accreditation Body of Serbia has assessors trained in organic farming, international cooperation of local academia with University of Kassel started, close relations already existing with organic markets in Germany, Austria, Switzerland, and The Netherlands.

#### *Weaknesses:*

Sector and domestic market small, financial engagement of international donors marginal, financial scheme and technical support for creating and running a special unit within the accreditation body not yet defined, certification systems still non-transparent.

#### *Opportunities:*

Evolution into Europe's prime supplier of organic soybean products, evolution into Europe's prime supplier of organic food/feed ingredients such as starches, bran, flakes, protein cakes, gluten, hydrolysates, pectin, colors, etc, perspective of becoming major element in IPARD project approval process, and thus in restructuring Serbia's agriculture and rural areas in general.

#### *Threats:*

Farms cannot develop to the level of international competitiveness, sector will be marginalized by developments in other countries, offering similar range of products, actors do not respect accepted EU business systems and are excluded from major international trading, domestic and international investments cannot be mobilized.

## **CONCLUSIONS**

Following the analysis it can be seen that the two countries have a major potential in developing the ecological agricultural segment due to the available areas and the favorable climate environment.

There is a rise in the evolution of growing on more and more areas the ecological products.

On medium and long term due to the usage of these ecological products, the health of humans can be improved and the environmental pollution can be reduced significantly.

The income from Organic farming can become the most important source for the Romanian and Serbian farmers so that their standard of living would increase.

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