

PERFORMANCE OF ECOLOGICAL AGRICULTURE IN ROMANIA

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Abstract:

The term ecological agriculture has been attributed by the European Union of Romania to define this system of agriculture and is similar with terms organic agriculture or biological agriculture, which are used in other member states.

One of the main goals of ecological agriculture is the production of agricultural and food products fresh and genuine through processes created to respect nature and its systems. Thus, it prohibits the use of genetically modified organisms, fertilizers and synthetic pesticides, stimulators and growth regulators, hormones, antibiotics for livestock and the use of synthetic chemical fertilizers, drastic interventions on the soil, the introduction of genetically modified organisms, in the case of the cultivated soil.

The study aims to highlight the main features of ecological agriculture and its impact on the national economy. Through a descriptive and comparative analysis of specific indicators are surprising the main aspects of ecological agriculture performance in Romania and are identified investment opportunities in this sector of the national economy.

Following this study, it was found that ecological agriculture in Romania is quite performant and recorded a continuous development, but mainly in the production, not in the processing and trading of natural products, which is why investment in these areas would be welcome.

Key-words: performance, ecological agriculture, turnover, net income.

JEL classification: Q56, M49

1. Introduction

Since 1980, biologists and ecologists reported that for the first time without a change in mentality with regard to natural resources, particularly those renewable, they will disappear and with them, the whole civilization will collapse. In this context and farmers have expressed an increased interest for agricultural practices better integrated in the cycles of nature, which is why they have some concepts and principles in order to switch to alternative models of agriculture.

Implementation of new alternative of agriculture began by updating biodynamic agriculture launched over 50 years ago by Rudolf Steiner, but they looked and models adapted for the end of the millennium as integrated farming system in the cycles of nature, called durable (sustainable) or other systems like organic farming, biological, regenerative, agrienvironmental, ecoagricultural, natural etc.

In time, they developed three main systems of alternative agriculture with names and specific guidelines based on their promoters [3]:

- **biodynamic agriculture:** a system created in Germany at philosopher Rudolf Steiner initiative and implemented by agronomist E. Pfeiffer, is based on the theory developed in 1913, anthroposophy and takes into account the influence of the moon phases and the stars on agricultural crops;
- **organic agriculture:** appeared in the United Kingdom, theoretical principles of this system have been grounded in the years 30-40 by Sir Albert Howard and Lady Eve Balfour and emphasized the biological balance and the natural fertility of the soil, the intake composted organic matter is essential and is excluded from agricultural practice to use of all nonrenewable natural resources, including fossil fuels;
- **biological agriculture:** appeared in Switzerland in the '40, with promoters as Hans Peter Rush and H. Muller and focus on renewable resources to ensure food security of the population by avoiding the use of synthetic fertilizers, pesticides, growth regulators at plants, the feed additives in animal husbandry.

Organic farming ensures the integrity of the biosphere, maximize the production capacity of agro ecosystems and obtaining good quality products. [1] Promote farming by those means which provides a balance between agro ecosystems and ambience. [2] Organic farming is a production system which avoids or excludes the use of synthetic fertilizers, pesticides, growth regulators and additives in animals feed. [4]

The objectives of organic farming are of several types (*environmental objectives, targets for cultivated plants, targets livestock and socio-economic objectives*) and can be summarized as follows [5]:

- avoid all forms of pollution, both at the product level as well as at the level of the environment;

- maintain the natural fertility of soils, thereby being able to ensure food security of the planet in a sustainable manner;
- enable the farmers a decent standard of living;
- to produce in sufficient quantities and at a quality level corresponding food - products according to consumers' health depends largely.

The organic agriculture is governed in Europe Union by Council Regulation 2092/1991 for vegetal sector and Regulation 1804/1999 for animal sector. Three terms are used to define this system of agriculture, namely the term *organic* (United Kingdom), the term *biological* (France, Italy, Belgium, Greece, Luxembourg, Hungary, Bulgaria, etc.) and term *ecological* (Germany, Austria, Spain, Denmark, Netherlands, Portugal, Sweden, Finland, Romania etc.).

2. Research methodology

The study aims to highlight the main features of ecological agriculture performance.

The nature of research has a conceptual and a methodological dimension.

Research objectives are to "radiography" the performance of ecological agricultural activity in Romania through descriptive and comparative analysis of specific performance indicators and identifying investment opportunities in this branch of the national economy.

Given the objectives proposed in the research, the scientific approach is based on a qualitative approach and a quantitative study of issues.

Methods are descriptive and comparative analysis.

Study results provide a valuable addition state of knowledge in this field by the following qualitative aspects of scientific research: identifying the main characteristics of ecological agriculture and surprising the development of this economic branch by presenting performance indicators of some companies in this sector.

3. Organic agriculture worldwide

According to the 2012 report of IFOAM - International Federation of Organic Agriculture Movements, global, organic farming has grown extremely rapidly, being practiced in 162 countries in 2012, twice more than in 2000, when were recorded 86 countries and the number of land cultivated with organic products and the organic farms is growing (more than 37.2 million hectares are currently planted with organic products, a number of over 600000 organic farms).

The largest area with organic products are found in Australia (over 12 million hectares), China (approximate 4 million hectares), Argentina (3 million hectares), Italy, USA, Brazil, Germany, Uruguay, Spain, United Kingdom and the main categories of organic products grown worldwide according to their intended surface, in conformity with data provided by the Research Institute for Organic Agriculture are olives, coffee, peanuts, grapes, tropical fruits, cocoa, citrus, tea, sugar cane and medicinal plants.

The global market for organic products is represented by 1.8 million producers, with 200000 more than two years ago, most being found in India (574591), Uganda (188625) and Mexico (169570).

The global market for organic products in 2012 was about 70 billion dollar, global trade with organic products is dominated in proportion of 65% by three countries: the United States with annual sales of 30 billion dollars, followed by Germany with 9.2 billion dollars and France 5.2 billion dollars.

4. Ecological agriculture in Romania

Romania has a relatively new history of the organic products market, but the growth of operators registered in the system is one spectacular - from 2000 in 2008 to nearly 26000 operators in 2012. However, only 2% of agricultural land from Romania is cultivated in certified organic system and most manufacturers exported the production as raw material due to lack of processing points. Exports of organic products in 2012 were 200 million euro and per capita consumption is the lowest from Europe, with 1.2 euro per capita.

In Romania, the legal framework is achieved through Emergency Ordinance no. 34/2000 on organic foods, published in Official Gazette no. 172/2000, harmonized by Law 38/2001 for approving Government Emergency Ordinance no. 34/2000 on organic foods, published in Official Gazette no. 122/2001. At these norms are added more, covering the following aspects of organic farming system: processing, labeling, trade, import, inspection and certification.

At the institutional level, in Romania are the following organizations in the field:

- The National Organic Products;
- Ecological Agriculture Committee;
- National Federation of Organic Agriculture;
- R.E.N.A.R. (structure of accrediting certification structures).

In addition to these certification and control structures for the conversion to organic agriculture, inspection and certification organizations of organic products in Romania, as well as non-governmental organizations.

5. Results and discussion

Organic market in Romania is represented by food products (vegetables, fruits, honey and bee products, tea, milk and cheese, bread, juices, nutritional supplements etc.) and non-food products (cosmetics, organic textiles, household products etc.).

To become a producer of organic products following steps are required:

- transition from conventional agriculture to organic (conversion period);
- annual registration of farming activity in the Department of Agriculture and Rural Development;
- a contract with an inspection and certification organization;
- certification of activities;
- marketing organization.

On Romanian market meets several names for products that need to be healthy, such as: organic, traditional and natural.

Organic products are based on organic farming materials that can be consumed as such or undergo processing. In turn, they are classified into several categories, namely:

- 100% organic products - must contain 100% organic ingredients excluding water and salt;
- organic products - must contain at least 95% organic ingredients excluding water, salt and chemical preservatives from sulphites category, for which, at wine product, so far not found an ecological replacement;
- products made with organic ingredients - must contain at least 70% organic ingredients, excluding water and salt. The remaining 30% of the ingredients can be produced in conventional systems.

Traditional products must be obtained from traditional raw materials, present a traditional composition or a mode of production and/or processing which reflect a technological process of production and/or processing traditionally which distinguished clearly from other similar products from the same category. Romania only traditional product and recognized in Europe is "Magiunul de Topoloveni".

Natural products must be made from natural raw materials, minimally processed and contain no hormones, antibiotics, sweeteners, food colors, flavors that were not originally in food.

The main ways of selling organic products in Romania are:

- direct sales from producing farms;
- seasonal sales markets;
- traditional retail - specialized stores;
- modern retail - hypermarkets, supermarkets, cash & carry;
- online stores (for example: www.rangali.ro, www.organikshop.ro, www.biomania.ro);
- network marketing (Life Care);
- sales through online stock organic products (www.agricultura-ecologica.ro).

Prices of organic products are generally higher than those of conventional products and this high level is due to the following factors:

- lower production per hectare (yield level is reduced by 20-30%);
- ingredients used in the production are more expensive;
- the necessary ingredients are difficult to obtain;
- production takes more time and requires skilled people;
- requires a large workforce;
- special packaging price obtained from recyclable materials;
- additional expenses with organic certification, mandatory for a product to be sold under this brand on various markets, which increase production costs even with 60%;
- the ratio of production cost and product price.

Regarding the situation of ecological agriculture in Romania, Ministry of Agriculture and Rural Development provides dynamic operators and surfaces organically grown in our country (table no. 1).

Table no. 1 **Dynamics of operators and surfaces in ecological agriculture of Romania**

Indicators	2006	2007	2008	2009	2010	2011	2012
Number of registered organic operators	3409	3834	4191	3228	3155	9703	15544
The area cultivated in organic farming, arable crops (ha)	45605	65112	86454	110014,4	148033,5	147581,55	174643,95

The area cultivated in organic farming, permanent crops (ha) pastures and hayfields	51200	57600	46006,5	39232,8	31579,11	78197,51	105835,57
Area under cultivation in organic farming, permanent crops (ha), orchards and vineyards	294	954	1518	1869,4	3093,04	4166,62	7781,33
Collection of spontaneous flora (ha)	38700	58728	81279	88883,4	77294,35	338051	1082138

Source: Ministry of Agriculture and Rural Development, Communications inspection and certification organizations

According with the data of the table can see that, during the analyzed period, there is a continuous development of this branch of agriculture. Thus, in 2012 compared to 2006, increase the number of operators with 355.97%, increase cultivated area (arable cultures with 282.95%, meadows and pastures with 106.71%, orchards and vines with 2546.71 %) and the collection of wild flora with 2696.22%.

Further, it will present the evolution of key performance indicators of companies which operates in the organic market from Romania in different areas: SC Dorna Lactate SRL Dorna Candrenilor - dairy farmer (table no. 2), SC Apidava SRL Blaj - producer of honey and other bee products (table no. 3), SC CORTINA-BIOPROD SRL Curtișoara - organic poultry farm (table no. 4).

Table no. 2 The evolution of turnover and net income to SC Dorna Lactate SRL Dorna Candrenilor

Indicators	Years				Relative deviation (%)		
	2009	2010	2011	2012	2010/2009	2011/2009	2012/2009
Turnover	155359404	163119613	185200945	182010865	5.00	19.21	17.15
Net income	-15038232	-7216189	-2318955	24372621	-52.01	-84.58	-262.07

Source: RISCO – Verification Monitoring Companies

According with the data of the table it can be seen an increase in the two indicators of performance in analyzed period. Thus, turnover increased by 5% in 2010 compared to 2009, by 19.21% in 2011 compared to 2009 and by 17.15% in 2012 compared to 2009. Analyzed company made losses in years 2009, 2010 and 2011, which decreased continuously (with 52.01% in 2010, with 84.58% in 2011 and with 262.07% in 2012) so that made income in 2012.

Schematically, the evolution of performance indicators to SC Dorna Lactate SRL Dorna Candrenilor is presented thus (figure no. 1):

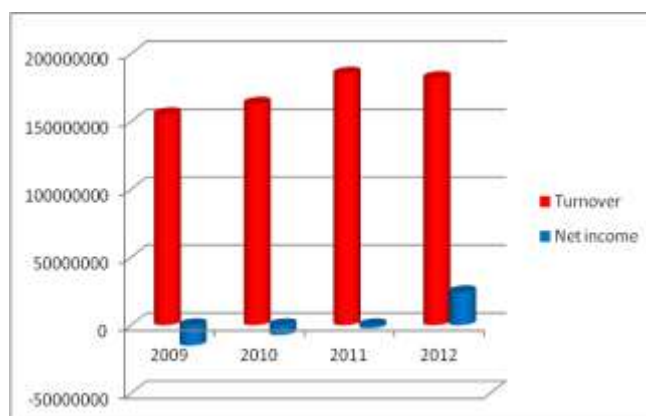


Figure no. 1 The evolution of performance indicators to SC Dorna Lactate SRL Dorna Candrenilor

Table no. 3 The evolution of turnover and net income to S.C. APIDAVA S.R.L. Blaj

Indicators	Years				Relative deviation (%)		
	2009	2010	2011	2012	2010/2009	2011/2009	2012/2009
Turnover	18821285	17241233	25235772	30305831	-8,40	34,08	61,02
Net income	1681494	1427598	2555515	1670615	-15,10	51,98	-0,65

Source: RISCO – Verification Monitoring Companies

According with the data of the table it is seen that the company is registered variations of performance indicators, but the trend is increasing, in general. If in 2010, both turnover and net income decreased (by -8.40% and

-15.10%), in 2011 comparative with the base year were important increases (34.08%, respectively 51.98%), and in 2012, turnover grew the most (61.02%), while net income was approximately equal to that in 2009 (-0.65%).

Schematically, the evolution of performance indicators to S.C. APIDAVA S.R.L. Blaj is presented thus (figure no. 2):

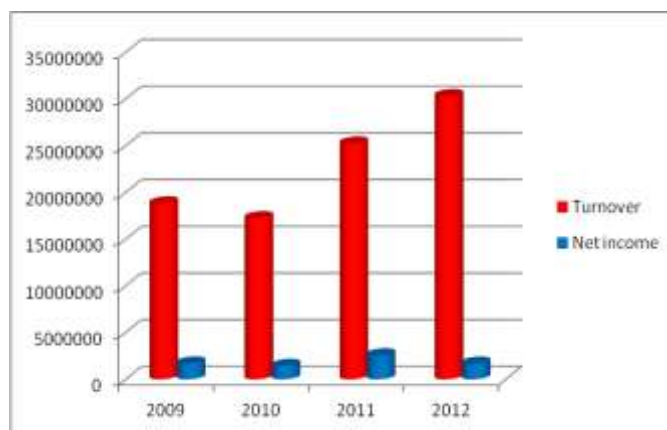


Figure no. 2 The evolution of performance indicators to S.C. APIDAVA S.R.L. Blaj

Table no. 4 The evolution of turnover and net income to S.C. CORTINA-BIOPROD S.R.L. Curtișoara

Indicators	Years				Relative deviation (%)		
	2009	2010	2011	2012	2010/2009	2011/2009	2012/2009
Turnover	1438348	2291180	2777113	2304511	59,29	93,08	60,22
Net income	48017	52745	75280	129621	9,85	56,78	169,95

Source: RISCO – Verification Monitoring Companies

According with the data of the table, the performance indicators growths in the analyzed period. Thus, turnover increased by 59.29% in 2010, by 93.08% in 2011 and by 60.22% in 2012 and net income by 9.85% in 2010, by 56.78 % in 2011 and by 169.95% in 2012 compared with 2009.

Schematically, the evolution of performance indicators to S.C. CORTINA-BIOPROD S.R.L. Curtișoara is presented thus (figure no. 3):

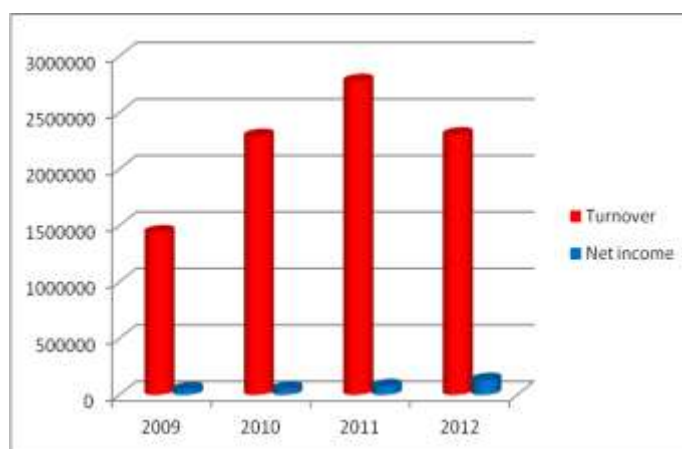


Figure no. 3 The evolution of performance indicators to S.C. CORTINA-BIOPROD S.R.L. Curtișoara

It can be seen that the key performance indicators of the companies analyzed have experienced generally an increase during the study, which shows a development of this sector of the national economy. However, one can notice a pretty big difference between the values recorded by the two indicators, meaning that turnover is much higher than the net income, which shows that the companies which activate in this area have the costs quite high.

6. Conclusions

Ecological agriculture in Romania has been constantly developing, but mainly in the production, not in the processing and trading of natural products, which is why investment in these areas would be welcome. Besides the obvious benefits on health and environment, organic farming provides a very important source of revenue for companies who practice this, leading to increase their economic and financial performance, as evidenced also by the study made.

Subsidies from state increasingly higher, the prices much higher of organic products are interest factors for investors in this field. Also, the development of this branch of economy involves the creation of new secure and healthy workplaces.

7. Acknowledgments

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