

Research into Agricultural Producers' Motives for Engaging in Organic Production in the Republic of Serbia

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Abstract

The primary goal of this paper is to explore the reasons and motives that influenced the farmers to opt for organic production, then to identify the factors limiting growth of such production and to consider the possibility of improving the organic production in the Republic of Serbia. The test method based on a questionnaire was used to obtain information on the producers' opinions and attitudes. There are significant potentials for organic production in the Republic of Serbia. The primary motive for engaging in organic farming is that the producers want to manufacture safe and healthy food primarily for themselves and for their family members. The purchase of organic seeds and seedlings, as well as of plant protection material and organic fertilizers, is said to be the biggest problem. There are still many other problems, such as a complicated procedure for obtaining certificates of organic production, poorly drafted legislation, the high cost of certification and analyses, low incentives from the government, but also the still low consumer awareness about the importance of organic food. The most important measure for the expansion of organic farming is an increase in government incentives in the form of subsidies or soft loans. It is necessary for the producers to team up into organic food associations in order to jointly meet the demand for organic products in the domestic and international markets.

Keywords: *organic production; producers' motivation; Serbia*

JEL Classification: *Q10, Q13*

Introduction

An intensive agricultural production of the conventional type affects the fertility of the land, pollutes the environment and results in contamination of agricultural and food products. Therefore, an increasing number of consumers opt for organic agricultural products and foodstuffs¹. Organic production represents ecological production management system that

¹ Vlahović, B., Puškarić, A., Jeločnik, M. (2011): Consumer Attitude to Organic Food Consumption in Serbia, *Petroleum - Gas University of Ploiesti Bulletin, Economic Sciences Series*, Vol. LXIII; No 1/2011, pp. 45-51.

promotes and enhances biodiversity, biological cycles and biological activity of the soil. It is based on minimal use of external (off-farm) inputs and on the management practice that establishes, provides and strengthens ecological harmony². The main objections to claims that organic farming can contribute significantly to global food supplies are low yields and insufficient quantities of organically acceptable fertilizers. However, through organic farming at the global level, one could produce enough food per capita to maintain the current world population, and potentially even larger population without increasing the agricultural land base. Organic farming has the potential to significantly contribute to the global food supply while, at the same time, it affects the reduction of harmful impacts of conventional agriculture on the environment³. It contributes to food safety and protection of the environment, prohibits the use of synthetic plant protection products, mineral fertilizers and genetically modified organisms. For many conventional farmers, these attributes represent an important incentive for converting to organic production. In addition, the availability of subsidies and price premium for organic production are the economic motive for conversion⁴. The development of farmers' environmental awareness can also significantly help to increase the conversion from the conventional agriculture into the system of organic farming. However, the environmental awareness itself is not sufficient to motivate producers to engage in organic production⁵.

Research Methodology

The primary goal of this paper is to explore the reasons and motives that influenced the farmers to opt for organic production, then to identify the factors limiting growth of such production and to consider the possibility of improving the organic production in the following period. The test method based on a questionnaire was used to obtain information on the producers' opinions and attitudes. 50 producers of organic food were surveyed. Although the test sample is relatively small, it is still possible to obtain answers indicating the basic factors that determine the organic production in the Republic of Serbia. However, the possibility of generalizing the results is relatively limited. The questionnaire was divided into three groups, and filling in lasted 10 minutes. The survey was conducted during September 2014. It was realized through personal communication with the organic food producers at the organic food market in Belgrade. The survey was conducted by B.Sc. Eng. (Agr.) Aleksandra Konjević. The paper contains interpretation of the survey results obtained, i.e. the answers which indicate the producers' motives, limiting factors and measures to improve this type of agricultural production.

The Results of the Research

Organic production in the Republic of Serbia

Organic production is not present to a sufficient extent in the Republic of Serbia. 1,280 organic agricultural producers are registered, as well as 49 processing companies, 33 importers and 23

² Liebhart, B. (2003). What is Organic Agriculture? What I Learned from my Transition. In: Jones, D., Poincet, T., Patterson, M., Bénicourt, F. editors. *Proceedings of the OECD Workshop on Organic Agriculture in Washington DC 2002*, Organic Agriculture – Sustainability, Markets and Policies. Wallingford, UK: CABI Publishing: 31-47.

³ Badgley, C., Moghtader, J., Quintero, E., Zakem, E., Chappell, M. J., Avilés-Vázquez, K., Samulon, A., Perfecto, I. (2007): Organic agriculture and the global food supply, *Renewable Agriculture and Food Systems*, Volume 22, Issue 02/2007, pp. 86-108.

⁴ Padel, S. (2001): Conversion to organic farming: a typical example of the diffusion of an innovation?, *Sociologia Ruralis*, 41:40–62.

⁵ Läßle, D. (2012): Comparing attitudes and characteristics of organic, former organic and conventional farmers: Evidence from Ireland, *Renewable Agriculture and Food Systems*: 28(4); 329–337.

exporters of organic food. In 2009, the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, supported by the German Agency for International Cooperation, adopted the National Action Plan for the development of organic farming.

Organic agricultural production takes place on 5,333 ha (2013), and compared to the previous year it decreased by about two percent. Corn dominates with 55% in the production structure, as is followed by wheat with 37% and soybeans by 6%. Organic vegetable production is present to a very small extent, i.e. it takes place on only 238 ha. Lettuce dominates, while potatoes, onions, tomatoes, peas and the like have significantly lower share. Compared to the previous year, it dropped by about a half. Organic fruit production takes place on 1,884 ha. Plum dominates with 24% in the production structure and is followed by apple with 23%, raspberry with 13%, sour cherry with 8% and strawberry with 2%. Compared to the previous year, the area decreased by as much as 63%. The total area under organic vegetable production in 2013 decreased by 32.9%, while the most pronounced decrease in area was recorded in fruit production (Table 1). One part of the area is in the system of conversion.

In the case of organic livestock production, the production volume decreased as well. The number of head of poultry in the system of organic production decreased in 2013 by 79.5%, the number of hives by 70.9%, while the number of small livestock, i.e. sheep, goats and pigs reduced by 4.7%. A 44.2% increase in the number of heads was recorded within the category of large livestock, i.e. cattle, buffaloes, horses and donkeys. Reduction of area in the organic production system, as well as a decrease in the number of livestock heads leads to the assumption that certain number of producers returned to the conventional type of production, or maybe even ceased to be engaged in agriculture.

Table 1. Organic production in the Republic of Serbia

Organic vegetable production (ha)			
	2012	2013	Difference (ha) 2013/2012
Crop farming production	5425	5333	- 92
Fruit growing production	5145	1884	- 3261
Vegetable growing production	530	238	- 292
Total	<i>11,100</i>	<i>7,455</i>	<i>- 3645</i>
Organic livestock production (heads)			
	2012	2013	Difference (heads) 2013/2012
Large livestock (cattle, horses...)	2394	3,453	1,059
Small livestock (sheep, pigs...)	4387	4,181	- 206
Poultry (chickens, geese...)	7876	1,615	- 6,261
Beehives	7004	2,037	- 4,967

Source: Kalentić, M., Stefanović, E., Simić, I., Maerz, U. (2014): *Organic farming in Serbia 2014*, The National Association for organic production "Serbia organica", Belgrade; Maerz, U., Kalentić, M., Stefanović, E., Simić, I., (2013): *Organic farming in Serbia 2013*, The National Association for organic production "Serbia organica", Belgrade.

The problem with the reduction or lack of motive to engage in organic agricultural production has also been present in other European countries. In several European countries, the absolute number of organic farms in the past decade has decreased and, moreover, some producers

completely gave up agriculture activities while others returned to conventional production⁶. Economic aspects play an important role in the farm's decision to return to conventional agricultural production. The main reasons are as follows: unsatisfactory income of farms, the problems with placement, low premium level for organic products and low or reduced subsidies. Important reasons are also high costs of inspection, high cost of organic feed certification, problems with legislation and with the system of control. The foregoing problems are particularly related to the time necessary for preparing documentation and reporting, as well as to the requirements that were very difficult to enforce. It is interesting that difficulties in the process of organic production, such as the pronounced varying of yields, low yields of field crops and problems with the procurement of feedstuffs, were less important for returning to the system of conventional agriculture⁷.

A positive example is organic farming in Austria. In 1992, there were about 2,000 farms that dealt with organic, ecological and biodynamic production, but the year of 1997 saw a tenfold increase, i.e. about 20.000 certified organic farms were reported active. At the time, that number represented 9% of the total number of farms in Austria, and the area of 345 thousand hectares represented 10% of total arable land on which the agricultural production took place⁸

The interpretation of the research results

The first segment of the research was to explore the producers' motives to engage in organic agricultural production in the Republic of Serbia. Specifically, the objective was to analyze the motives that influenced the farmers to opt for dealing with this type of production. One half of the producers who were surveyed stated that their primary and most important motive for engaging in organic agricultural production was an intention to produce healthy and safe food, primarily for themselves and for the members of their families. In this way, the use of genetically modified organisms is avoided as well as the application of chemicals (mineral fertilizers, plant protection products, etc.) that can often be found in food produced in the conventional agriculture system.

Table 2. The motives for engaging in organic agricultural production in Serbia

Answers	%
Production of healthy and safe food	50
Ecological awareness	17
Financial reasons (higher income)	10
Environmental protection	9
Other (tradition, free land ...)	9
Unemployment	5
Total	100

Source: The survey of organic food producers

Another reason for engaging in organic production (17%) is the existence of ecological awareness, i.e. the way of living the life in harmony with nature. This reason is followed by financial reasons (10%) such as: realization of higher income, incentives higher in comparison

⁶ Sahm, H., Sanders, J., Nieberg, H., Behrens, G., Kuhnert, H., Strohm, R., Hamm, U. (2013): Reversion from organic to conventional agriculture: A review, *Renewable Agriculture and Food Systems*, Volume 28, Issue 03/ 2013, pp. 263-275.

⁷ Sanders, J., Hamm, U., Kuhnert, H., Nieberg, H., Strohm, R. (2014): *Reversion of organic farms to conventional farming in Germany*, Proceedings of the 4th ISOFAR Scientific Conference "Building Organic Bridges", at the Organic World Congress 2014, 13-15 Oct., Istanbul, Turkey.

⁸ Vogl, C. R., Hess, J. (1999): Organic farming in Austria, *American Journal of Alternative Agriculture*, Volume 14, Issue 03/1999, pp. 137 – 143.

to conventional production, the prices of organic agricultural products higher than the prices of conventional agricultural products, and the like. The fourth reason (9%) is the motive for environmental protection and biodiversity conservation, and the same percentage of respondents stated other reasons such as: returning to the traditional method of food production, expansion of the product range in the market and possession of small parcels suitable for organic production. A small number of the surveyed producers (5%) stated unemployment, i.e. loss of jobs in industrial facilities as the reason for engaging in organic production.

Based on the survey results one can conclude that the primary reasons for engaging in organic production are - the need to consume healthy and safe food, financial motives, raising ecological awareness, environmental protection and conservation of biodiversity.

There are significant potentials for organic production in the Republic of Serbia, which is evidenced by the fact that about 10% of land is unpolluted and ideal for organic production. Climate conditions and still unpolluted environment are the major advantage of the Republic of Serbia in comparison to other countries from the standpoint of establishing and increasing the surface areas in the organic production system.

The other segment focuses on the research into the factors that adversely affect an increase in organic agricultural production. One of the biggest limiting factors (30%) is disorganized market of organic agricultural products (Table 3). The purchase of certified organic seeds and seedlings is said to be the biggest problem, as well as is the placement of organic agricultural products, still undeveloped distribution channels and the like. Consumers' mistrust toward organic food is greatly present. The second-ranked limiting factor (14%) is a complicated procedure (administration) as regards obtaining of certificates for engaging in organic production.

Table 3. The limiting factors for engaging in organic agricultural production in the Republic of Serbia

Answers	%
Disorganized market	30
Complicated procedure	14
The lack of organic protective products	10
Other (low government incentives)	10
Inadequate laws	9
Underdeveloped ecological awareness of consumers	6
Lack of manpower	6
High investment in production	6
Lower yields	3
Labor-intensive production (great volume of work)	2
Disassociation from the conventional agriculture	2
Poor marketing	2
Total	100

Source: The survey of organic food producers

The problem in procurement of organic plant protection products, organic fertilizers and other raw materials was indicated by 10% of respondents, and the same percentage of respondents indicated insufficient amount of incentives, granted by the relevant government institutions, for engaging in organic production. 9% of respondents indicated the lack of legislation and legal regulations, and a smaller percentage indicated the lack of manpower for higher volume of production. 6% of respondents indicated that the limiting factors were high investment in organic production, lack of working capital and insufficiently developed environmental awareness of consumers. A smaller percentage of respondents said that lower yields were one of the limiting factors for engaging in this type of production, as well as were the problems with

disassociating from the conventional agricultural production, poor marketing and lack of funds for advertising.

There are certain obstacles to conversion to organic production. For example, organic agriculture is an information-intensive production method that requires significant training and change in the production system, which affects the final decision of the producers⁹. Limitations to organic production development in the developed European countries is caused by the lack of funds to support this sector; in other words, the amount of funds intended for such production does not increase in proportion to the increase in the number of farms and farmers in the system of organic production¹⁰.

The Republic of Serbia has unexploited natural and environmental resources for the development of organic production of fruits, vegetables, field crops, meat, honey, etc. In addition to the foregoing, more committed engagement in this production is hindered by the following significant obstacles as well:

- Farmers' insufficient knowledge of dealing with organic production;
- The high price of inputs of organic raw materials (input prices are higher by 30% compared to conventional prices);
- The high price of certification of organic products, as established by institutions responsible for certification;
- Low demand in the domestic market, conditioned in part because of weak consumer education and partly because of low income;
- The lack of adequate facilities for the processing of organic products;
- Insufficient knowledge of the EU legal framework relating to export of organic products and the like.

The next segment of the research was related to the measures for development, i.e. improvement of organic agricultural production in the Republic of Serbia. 31% of respondents indicated an increase in government incentives, in the form of subsidies or soft loans, as the most important measure for the development of organic agriculture. The Government of the Republic of Serbia provides up to 40% higher subsidies for organic production compared to the conventional one. One of the main problems is that the information about the subsidies is largely inaccessible to the potential producers, especially those in rural areas. The incentives that were regulated in 2014 by the Rulebook on the use of incentives for organic production include the following types of incentives in corresponding amounts¹¹ by type of an individual measure, namely¹²:

- The premium for milk produced by organic production method in the amount of 0.1 €/l.
- Basic incentives in organic crop production in the amount of 70 €/ha.
- Fuel allowance for organic production in the amount of 0.6 €/lit., i.e. in the maximum amount of 35 €/lit.
- Allowance for plant nutrition and soil conditioners approved for use in organic crop production in compliance with the regulation governing the organic production methods, and recorded in the register in accordance with the regulation on plant nutrition and soil conditioners, in the amount of 0.1 €/lit. i.e. kg., or in the maximum amount of 35 €/lit.
- Incentives in organic livestock production: quality breeding dairy cows in the amount of 230 €/head, high quality breeding sheep and goats in the amount of 47 €/head, quality breeding sows in the amount of 47 €/head, heavy breed of parent hens in the amount of 0.7 €/head, light breed of parent chickens in the amount of 1 €/head, parent turkeys in the

⁹ Padel, S. (2001): Conversion to organic farming: a typical example of the diffusion of an innovation?, *Sociologia Ruralis*, 41:40–62.

¹⁰ Vogl, C. R., Hess, J. (1999): Organic farming in Austria, *American Journal of Alternative Agriculture*, Volume 14, Issue 03/1999, pp. 137 – 143.

¹¹ Currency value 1€ = RSD 120

¹² "Official Gazette of RS" 52/2014 - Rulebook on the use of incentives for organic production.

amount of 3 €/head, quality carp breeding parent fish in the amount of 6 €/head, quality trout breeding parent fish in the amount of 3 €/head, fattening beef cattle in the amount of 120 €/head, fattening lambs in the amount of 12 €/head, fattening pigs in the amount of 12 €/head and the like.

Table 4. Measures for the development of organic agricultural production in Serbia

Answers	%
Increase in government incentives	31
Organizing repurchase (pre-contracting)	27
Raising ecological awareness of consumers	21
Better education of producers	19
Merging of land	1
Other (reducing imports, passing better laws, reducing paperwork)	1
Total	100

Source: The survey of organic food producers

Pre-contracting and organizing repurchase of organic products was indicated by 27% of respondents. This would provide a secure placement of the organic food produced. Raising ecological awareness of consumers was indicated by 21% of respondents. This is a complex issue. It is necessary to constantly work on raising ecological awareness in schools, colleges and other institutions. Activities at the local level and throughout the country are also necessary. Providing substantial information about the importance of organic food and constant education of consumers are imperative of higher demand and thus the production of organic agricultural products. 19% of respondents indicated the need for better education of organic producers, and 1% of respondents indicated merging of land, reduction imports, better laws, reduction of paperwork and the like, as measures to contribute to the development of organic farming.

Development of organic agriculture in the Republic of Serbia can be accelerated if the method of organizing organic production is adopted from the successful countries with traditions in this segment of agriculture. For example, strong organic movement in Austria can be attributed to government subsidies that represent significant support to organic farmers and to acceptance of organic products and their brands by large food chain retailers and supermarkets. It is also important to note that more than 60% of organic farmers are tied to associations and organizations that provide advisory services and support services in the field of marketing activities¹³.

It is necessary for the producers to team up into organic food associations in the Republic of Serbia in order to jointly meet the demand for organic products in the international market. It aims at increasing production and joint appearance in the market. The advantages rest with savings in the procurement of raw materials in the production, transport, storage of goods, easier placement of goods on the market, more favorable position in obtaining subsidies and loans. There are several associations of organic producers: Terras, Vitas, Green Network of Vojvodina, and several centers: Center for organic production Selenča, Centre for Development of Jablanica and Pčinja Districts, Center for organic production Valjevo, Centre for organic production Svilajnac, Center for organic production Negotin, Biobalkan Association, Biorazvoj Association and others.

Establishment of a coherent and reliable political framework, which increases the competitiveness of organic farming with the conventional agriculture in the long term, is a central challenge. In order to ensure the economic viability of organic agriculture, it is necessary

¹³ Vogl, C. R., Hess, J. (1999): Organic farming in Austria, *American Journal of Alternative Agriculture*, Volume 14, Issue 03/1999, pp. 137 – 143.

to adopt the necessary measures that will lead to an increase in yield and productivity of organic farms. In addition, stakeholders in the organic sector and agricultural institutions should make efforts to enhance transparency and practicality of requirements, to eliminate the weak points in the control system and to develop a better system of advising the producers¹⁴.

Conclusion

Although the Republic of Serbia has favorable conditions for organic crop and animal production, such production is scarcely present. At the same time, it also recorded significant decline in 2013 compared to the previous year.

Based on the research results, it can be concluded that the primary reasons for engaging in organic production are - the need to consume healthy and safe food, financial motives, raising ecological awareness and protection of the environment from various forms of pollution. One of the major limiting factors of further expansion of organic food production is disorganized market of organic products. The purchase of organic seeds and seedlings, as well as of plant protection material and organic fertilizers is a big problem. There are still many other problems, such as a complicated procedure for obtaining certificates of organic production, poorly drafted legislation, the high cost of certification, analyses, low incentives from the government, but also the still low consumer awareness about the importance of organic food for the population health, preservation of biodiversity and environmental protection.

The most important measure for the development of organic farming is an increase in government incentives in the form of subsidies or soft loans. Constant education is necessary in the field of organic production (technique, technology, marketing, etc.). It is necessary for the producers to team up into associations in order to jointly meet the demand for organic products in the domestic and international markets. Development of organic agriculture in the Republic of Serbia can be accelerated if the method of organizing organic production is adopted from the successful countries with traditions in this segment of agriculture.

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