

ЭКОНОМИКА
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THE DEVELOPMENT OF ORGANIC FARMING IN POLAND

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The aim of the study was to determine the status of organic farming in Poland and to determine the prospects of its development. The source of data for the analysis was the literature and statistical data storage. The research showed that organic farming is an attractive alternative to conventional agriculture and it fits with the idea of sustainable development. Development of this form of farming was mainly triggered by financial support from the European Union. This system is an opportunity for smaller farms that can not compete on the EU market with a large scale of production. It allows for the use of significant labour force in rural areas and an effective management of land of lower quality. In view of the general economic growth, the increased incomes of the population and growing public food awareness, both supply and demand for organic food products in Poland will keep going up.

Key words: organic farming, system, certification, financial support, Poland.

Introduction

Organic farming is an agricultural system characterised by possibly highest sustainability of plant and animal production on the farm, based on natural, technologically unprocessed means (both biological and mineral). It prohibits the use of agricultural, veterinary and food chemicals. By activating natural resources and biological mechanisms of farm production, organic farming provides sustainable soil fertility, animal health and high biological quality of agricultural products [2].

This management system is part of the idea of sustainable development (environmental sustainability), that is the one in which the needs of the present generations can be met without compromising the same opportunities of future generations. This is an ecologically sustainable system as it does not burden the environment, economic since it is largely independent of external inputs, and social as it allows the countryside and agriculture to prevail as social and cultural categories [9].

The main objectives of organic farming include:

- maintaining a high level of humus, which determines fertility of the soil,
- maintaining biological balance in the agricultural production environment,
- striving to close the cycle of matter in the farm by balanced plant and animal production.

Farmers involved in such production must have specific knowledge in order to produce in adherence to and in respect of the natural life-cycle, i.e. not use synthetic chemicals (e.g. fertilizers, plant protection products), and also not to introduce harmful substances into the environment. The use of good agricultural practices, in line with the standards, is conducive to self-cleaning of the environment and maintaining biological balance which is beneficial to the man and nature [10].

The aim of the study was to determine the status of organic farming in Poland and to determine the prospects of its development. The source of data for the analysis was the literature and statistical data storage. The analysis takes into account changes in a number of organic farms and enterprises engaged in the processing of organic products, changes in the organic farming cultivation areas, the system of control and certification of organic farms and the system of financial support for organic production. In addition, it shows the strengths and weaknesses of organic agriculture.

Results

Development of organic farming in Poland began in the early 90s of the 20th century. The reasons behind it were [3]:

- increased interest in the dangers posed to the environment by highly intensive farming, for which organic farming was supposed to be a counterweight;
- Polish agricultural backwardness in relation to the EU countries, manifested among others by the use of mineral fertilizers on a smaller scale, which made the agricultural production better adapted to the required environmentally friendly production methods;
- large, untapped labour force in agriculture and related lower labour costs, which was very favourable for the development of labour-intensive organic farming;
- increasing difficulties in the sale of agricultural products and livestock, thus forcing farmers to pay more and more attention to the quality of production, which could become an important source of competitive advantage in the market.

Following the integration with the EU, there could be observed a robust growth in the number of organic farms in Poland. This was related to the financing of organic production with the EU and national funds. After the Polish accession to the EU, farmers could obtain funds for such agricultural activities under the Rural Development Plan (RDP) 2004–2006 [5]. The support for organic farming under this program was implemented as part of the package 2 – "organic farming" under action 4: "Agri-environmental and animal welfare support". The implementation of the package consisted in the farmer's taking activities designed to contribute to the promotion of agricultural production systems compatible with the requirements of environmental protection and conservation of farm animal genetic resources. The package "organic farming" contained eight possible options to be implemented [8]. Obtaining support for agri-environmental and animal welfare projects was conditional upon the beneficiary's obligation to implement this program for a period of 5 years. The amount of 3,592 million public funds was assigned for the implementation of the program, including 2,866 million of the EU contribution and 726 million of the Polish state contribution [1].

Funding of organic farming in Poland was also planned in the Rural Development Program for the years 2007–2013 [6]. According to the program, organic farmers obtained financial aid by implementing actions under "Participation of farmers in food quality scheme" or "Information and publicity" actions from axis I "Improving the competitiveness of the agricultural and forestry sector". At the same time financial support could be obtained in the framework of Axis II "Improving the environment and rural areas", through the action – "Agri-environmental program (Agri-environment payments)", from package 2 "organic farming". This package already included 12 possible options for the implementation [8]. In total, under the RDP 2007–2013, Poland acquired under the second pillar of the Common Agricultural Policy more than 17.4 billion euros. This amount consisted of EU funds from the European Agricultural Fund for Rural Development (13.4 billion euros) and the national budget funds (about 4 billion euros).

Currently, organic farming in Poland is supported based on the provisions of the Rural Development Program (RDP) 2014–2020 [7]. In accordance with the provisions, financial flows are directed at two sub-projects: "Payments to organic farming during conversion" and "Payments to maintain organic farming." Within these sub-projects the aid is granted to different types of operations (packages):

1. Agricultural crops during the conversion period – 966 PLN/ha;
2. Vegetable crops during the conversion period – 1557 PLN/ha;
3. Herbal crops during the conversion period – 1325 PLN/ha;
4. Fruit crops during the conversion period – 1882 PLN/ha (basic fruit crops) and 790 PLN/ha (extensive fruit crops);
5. Fodder crops on arable land during the conversion period – 787 PLN/ha
6. Permanent pasture during the conversion period – 428 PLN/ha.
7. Agricultural crops after the conversion period – 792 PLN/ha.
8. Agricultural crops after the conversion period – 1310 PLN/ha;
9. Agricultural crops after the conversion period – 1325 PLN/ha;
10. Fruit crops after the conversion period – 1501 PLN/ha (basic fruit crops) and 660 PLN/ha (extensive fruit crops);
11. Fodder crops on arable land after the conversion period – 559 PLN/ha
12. Permanent pasture after the conversion period – 428 PLN/ha.

At the same time, there were first established digressive rates for the years 2014–2020, where payment is granted to the arable land in the amount of

- 100 % of standard rate – for the area of 0.10 ha to 50 ha,
- 75 % of standard rate – for the area of more than 50 ha to 100 ha,

In total, organic farming has been allocated 445.4 million euros from EU funds and 254.6 million from national funds.

In connection with the funding of organic production in the years 2004–2013 the number of organic farms increased more than 7-fold from 3760 to 27093 (Fig. 1). After this period there was a decrease in the number of entities participating in the scheme to 23015 in 2015. The next year saw the number of organic producers go up again.

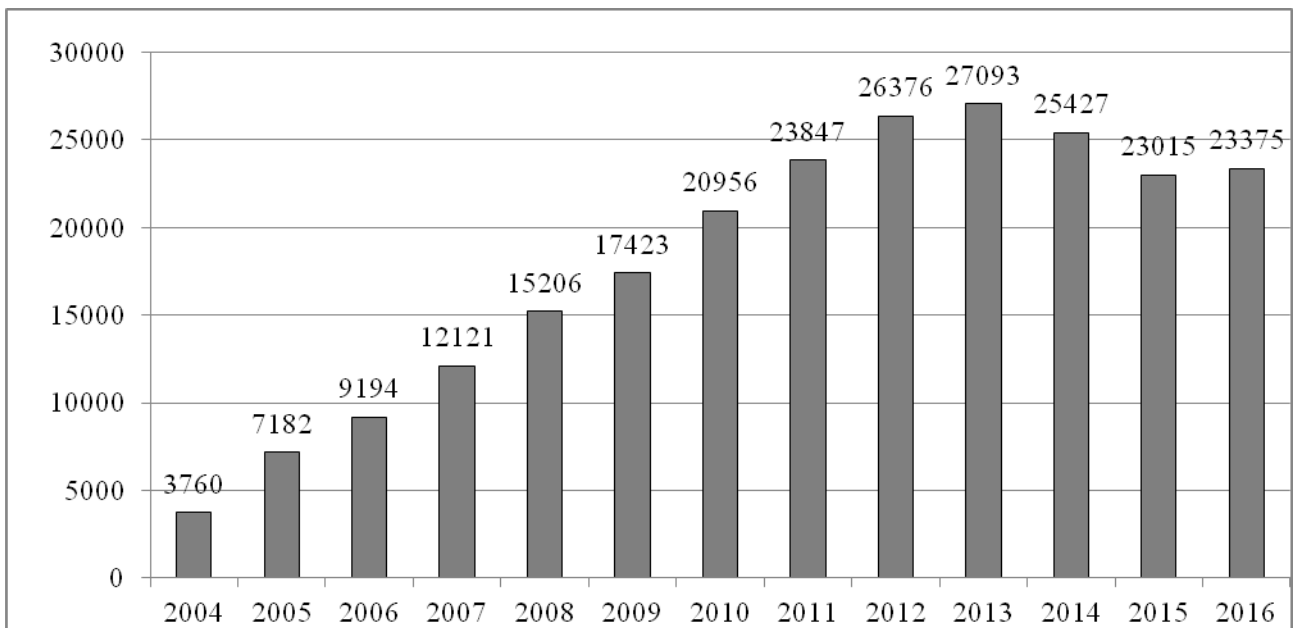


Figure 1. Number of organic producers in Poland in 2004–2016
 Source: Report on the state of organic farming in Poland in 2015–2016.

Similar trends were recorded in terms of the land area of organic farming. In the period 2004–2013 its area increased more than 8-fold from 82.7 thou. to almost 670 thou. ha (Fig. 2). In the following years there was a reduction of the organic farming area. This was probably the result of the end of the five-year commitment period for large-area farms. As a result, some of these farms resigned from continuing the organic production. In addition, in 2014 there were introduced degressive payment rates related to the increasing farming area, which also contributed to some farmers' resignation of this type of production, especially by those running large-area farms.

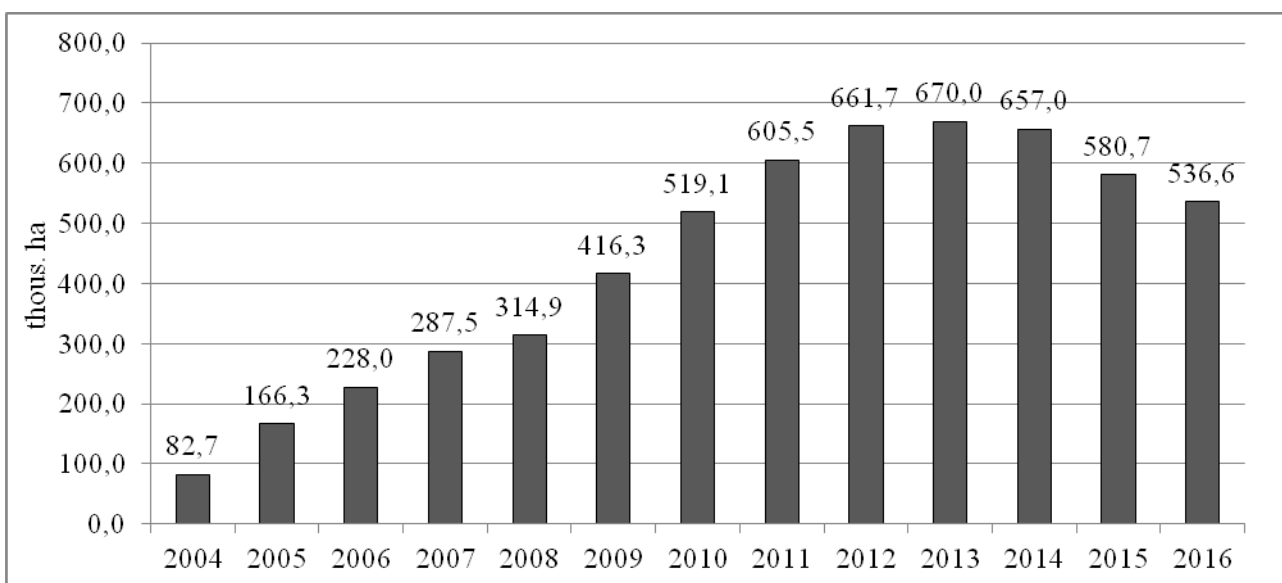


Figure 2. Area of ecological arable land in Poland in 2004–2016
 Source: Report on the state of organic farming in Poland in 2015–2016.

The structure of organic farms is visibly dominated by holdings with only plant production. In 2016, they accounted for 83.2 % of all organic farms. The remaining 16.8 % holdings had both plant and animal production. The dominance of plant production was due to a greater ease in meeting environmental requirements. While a properly run organic farm is supposed to have livestock as these allow for keeping fodder-fertilizer balance, many farmers give up livestock production, especially the farms with a high proportion of forage crops.

Almost half of all organic farms (49.2 %) ran both organic and non-organic production (Table 1). In this way they have diversified the sources of agricultural income in case of difficulties in the sales of organic products.

Table 1. Number and structure of ecological farms in Poland in 2016 by type of production

Ecological farms	Number	%
Conducting only plant production	18 669	83,2
Conducting plant and animal production	3 766	16,8
Including organic and non-organic production (plant and/or animal production)	11 045	49,2
The total number of farms	22 435	100

Source: Report on the state of organic farming in Poland in 2015–2016.

The structure of arable lands used for organic production is dominated by crops grown for animal feed and by the meadows and pastures, although their share in the total area decreased from 62.7 % in 2015 to 57.8 % in 2016. Such a structure makes it possible to maintain a fodder-fertilizer balance on the farm and appropriate crop rotation. Cereals accounted for a smaller percentage. Their share in 2015 was 17.5 % and in 2016 – 18.9 %. Part of the area in organic farms was allocated for cultivation of fruit, berries and vegetables. Fruits and vegetables are one of the most frequently purchased organic products. In the years 2015–2016 the share of vegetables increased from 7.0 % to 9.7 %. A significant increase was also observed within the industrial plants production, from 1.1 % to 2.5 % (Fig. 3).

Considering the market perspective, the size of livestock production in organic farms was rather small (Table 2). Especially scarce in this system was pigs rearing. Most organic farms dealt with breeding laying hens. Their number in the years 2015–2016 increased by 29.1 %. This was due to a strong demand for organic eggs. Many farms also ran beef cattle, sheep and goats farming. The source of feed for these animals were meadows and pastures, which occupied the largest proportion of arable land in organic farms.

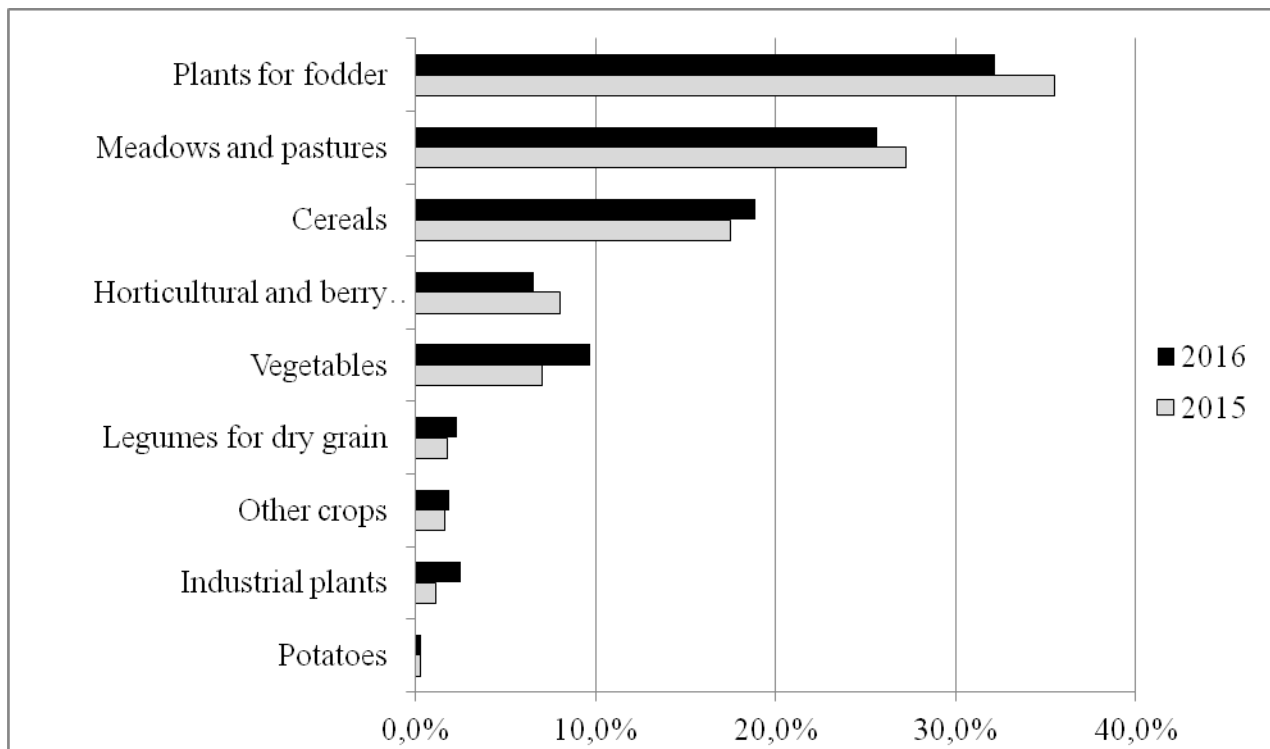


Figure 3. Structure of ecological arable lands in Poland in 2015–2016
Source: Report on the state of organic farming in Poland in 2015–2016.

Table 2. Status and changes in the number of organic livestock in Poland in the years 2015–2016 [in physical units]

Livestock	Years		Changes [in %]
	2015	2016	
Meat cattle	9 144	8433	92,2
Dairy cows	11 106	11 864	106,8
Broilers	31 885	36 337	114,0
Laying hens	139 222	179 764	129,1
Pigs	6 309	4 449	70,5
Sheep	25 754	19 474	75,6
Goats	3 268	3 519	107,7

Source: Report on the state of organic farming in Poland in 2015–2016.

Organic production means much more intensive labour and less effective output than conventional one. In addition, in the case of organic farming any possible increase in economic efficiency is and will be constrained by strict guidelines for certified crop and animal breeding, and in particular by the total ban on the use of artificial fertilizers and chemical pesticides. Another problem is the cost of transport between producers and the cities where the demand for organic products is the highest. All this means that the prices of products from organic farms are relatively high (from 20 to almost 300 % compared to the prices of conventional products), which

creates problems with selling such products. An important distribution channel is direct sale to the customer at various fairs, festivals and bazaars.

According to the research conducted in 2012 by A. Pawlewicz and W. Gotkiewicz out of 67 organic farms located in Warmińsko-Mazurskie province just over one-third of farmers sold almost all products produced on the farms, and 14 % sold only half of them [4]. More than 30 % sold a small part of their products and 23.3 % destined the entire production for their own needs. Producers of organic agricultural products are poorly organized and have difficulty obtaining the consumers for their products. By producing products on a small scale they are not able to meet the demands of the market for large batches of goods. The number of organic processing plants increases, in 2004 there were only 55, in 2016 already 705 (Fig. 4). However, they are still not numerous enough. Consequently, farmers often sell their organic products, mainly of animal origin, to non-specialised plants at the same prices as the later buy conventional products. Therefore it is important for farmers to cooperate and organise into producer groups in order to arrange for the sale of products and to create and develop organic products processing plants.

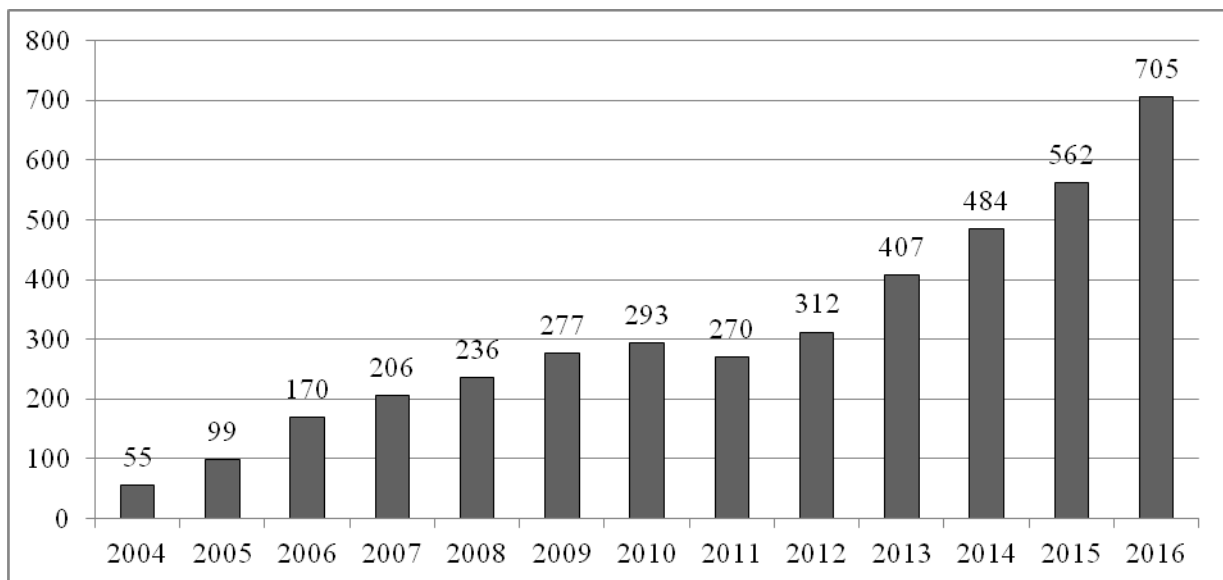


Figure 4. The number of organic processing plants in Poland in 2004–2016
Source: Report on the state of organic farming in Poland in 2015–2016.

The strength of organic farming in Poland is primarily a low level of chemicals in agricultural production (Table 3). This results in healthier products and reduces negative impact of agriculture on the environment. Whereas the weakness is a lower productivity in plant and animal production compared to conventional production. In addition, organic production requires higher labour and production costs. These weaknesses should be offset by higher sales prices but there is still a barrier of slow dynamics of demand. An additional difficulty is a limited bargaining power of agricultural producers in organic products supply chains.

In order to implement the principles of organic production and meet consumer needs each organic farm undergoes a strict control process. It applies to farms em-

barking on the production by organic methods, those already running such production and to producers engaged in processing and marketing of organic products. Control and certification system was created under the Act on organic farming of 20 April 2004. It functions according to the rules laid down in the Council Regulation (EEC) No 2092/91. The units exercising proper system of control and certification in organic farming include:

- Ministry of Agriculture and Rural Development,
- Agricultural and Food Quality Inspection
- Certification units.

Table 3. Strengths and weaknesses of organic farming

Strong points of organic farming	Weak points of organic farming
<ul style="list-style-type: none"> - balanced system places no burden on the environment - allows rural farmers to survive and operate in new farming conditions - food produced contains fewer hormones, antibiotics, synthetic additives, etc. - organic products have higher proportions of desirable components: sugars, proteins, vitamins (B, C, Fe, Mg, P), - supports rural profitability indice, - considerable EU funds are used for the needs of organic farming, - development of organic foods increases the interest in other areas, e.g. the cosmetic sector 	<ul style="list-style-type: none"> - 20 % smaller crops in relation to crops obtained using traditional methods, - higher production cost, - lower economic efficiency, - high prices of organic product, - Poland's economic situation prevents increasing the number of consumers ready to pay more for organic products - limited range and availability of Polish organic foods

Source: [10].

As of 24 May 2018 there were 12 certification bodies in Poland which have accreditation certificates issued by the Polish Centre of Accreditation. All must meet the requirements laid down in the Council Regulation EEC 2092/91 and submit a relevant application to the Minister of Agriculture and Rural Development. Certification units conduct at an organic food producer an initial inspection at least once a year, an advanced inspection and, depending on the degree of risk, an unannounced inspection. After a positive decision the producer receives a certificate of compliance. The producer who does not meet the requirements faces such sanctions as admonition, warning, suspension and revocation.

Organic processing plants, packaging companies, and wholesalers buying agricultural products also need to obtain a certificate of compliance. Such entities are controlled by a certification unit, the State Sanitary Inspection and a local Inspectorate of Agricultural and Food Quality Inspection. Companies buying agricultural products usually carry out an additional research on their own, in order to further reduce the risk of any fraud.

Obtaining a certificate of conformity is a guarantee that the products were produced organically and thus it gives the right to use the logo of organic production in

the product labelling. This one presents a leaf made up of stars against the green background. In addition, the organic product label should include the number of the unit certifying the producer and information on the origin of raw materials included in the product, such as: "EU Farming", "Non-EU Farming", "EU/Non-EU Farming". Such labelling allows full traceability of EU organic products and can strengthen the consumer's confidence in the organic market.

Products can be labelled as organic if:

- their production undergoes the control of a certification unit,
- the ingredients contained in it do not come from both organic and non-organic production,
 - it can not be produced using genetically modified organisms and /or any products derived from such organisms,
 - the product and its ingredients can not be treated with ionizing radiation.

Conclusions

1. Organic farming is an attractive alternative to conventional agriculture and it fits with the idea of sustainable development. In the years 2004–2013 there was recorded in Poland an increase in both the number of organic producers and the size of agricultural area with organic production. Development of this form of farming was mainly triggered by financial support from the European Union. In subsequent years, the system of subsidies should promote mainly those farm which implement to the fullest possible extent the most important goals of organic farming which are production of organic food and environmental protection.

2. Development of organic farming is an opportunity for smaller farms that can not compete on the EU market with a large scale of production. It allows for the use of significant labour force in rural areas and an effective management of land of lower quality. This system also creates prospects for activating rural population living in the surroundings of organic farms and for the development of other economic activities.

3. In view of the general economic growth, the increased incomes of the population and growing public food awareness, both supply and demand for organic food products in Poland will keep going up. For this to happen, however, we must neutralize the factors slowing down the development of the organic products market. These include the shortcomings in the market organization and in the coordination of distribution of both food commodities and processed foods, too little role of horizontal integration of farms selling to the market and of the vertical integration related to processing and trade.

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РАЗВИТИЕ ОРГАНИЧЕСКОГО ХОЗЯЙСТВА В ПОЛЬШЕ

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Целью исследования было определение состояния органического земледелия в Польше и перспектив его развития. Источником данных для анализа послужила научная литература и статистические данные. Исследование показало, что органическое земледелие является привлекательной альтернативой традиционному сельскому хозяйству и соответствует идее устойчивого развития. Развитие этой формы сельского хозяйства было в основном вызвано финансовой поддержкой со стороны Европейского Союза. Эта система представляет возможности для небольших хозяйств, которые не могут конкурировать на рынке ЕС с хозяйствами, имеющими большие масштабы производства. Это позволяет использовать значительную рабочую силу в сельской местности и эффективно управлять землями более низкого качества. Ввиду общего экономического роста, роста доходов населения и растущей осведомленности общественности о продуктах питания, как спрос в целом, так и спрос на органические продукты питания в Польше будут продолжать расти.

Ключевые слова: органическое сельское хозяйство, система, сертификация, финансовая поддержка, Польша.

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К ВОПРОСУ О РАЗВИТИИ СОЕВОДСТВА В РЕСПУБЛИКЕ БЕЛАРУСЬ

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В статье рассматриваются основные проблемы, препятствующие развитию соеводства в Республике Беларусь. Для преодоления этих проблем предлагается создание Ассоциации производителей и переработчиков сои, основной целью деятельности которой будет являться популяризация соеводства, содействие установлению взаимодействия и партнерских отношений между производителями, переработчиками и потребителями сои и соепродуктов,