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Ecological food production in the Lublin region

Ekologiczna produkcja żywności na Lubelszczyźnie

Summary. The aim of the paper was to present the legal, economic and social determinants of organic food production in the Lublin region. The paper includes the legal aspects of organic farming, rules on labeling of organic products and changes in the number of farms in recent years. Attention was drawn to some organic products available in the Lublin region, the identification of problems and barriers and opportunities for the development of this production sector.

Key words: ecology, food, farm animals, Lublin region

INTRODUCTION

Organic production in recent years, enjoys growing appreciation both by consumers and producers. The existing regulations in force in the European Union and national laws allow for rapid development of this production sector. A crucial role is played by programs that aimed at financial support of organic farming and its promotion in the market and raising of consumer awareness about the quality of food. Organic farming helps to protect the environment, maintaining high quality of the soil and the natural landscape with particular attention to protection of species occurring in the production area.

In Poland there are favorable conditions for the development of organic farming: traditional technologies of agricultural production, low levels of environmental pollution and a large share of light soils in the qualitative structure of agricultural land, which favors the weaker spatial land under organic production, based largely on the crop rotation [Komorowska 2007]. Organic farming is an alternative to conventional farming system. Polish eastern voivodships have structural conditions, environmental, social, and

historical promoting the development and application of organic methods of food production [Dolatowski 2011].

The aim of this study was to characterize the legal requirements and the socio-economic for the development of organic production in the Lublin region.

Legal considerations and financial support for organic production in Poland

The interest in organic production in Poland is observed from the late 80's of XX century. In 1989 was founded the Association of EKOLAND, the first institution aiming to promoting organic farming. With the accession to the International Federation of Organic Agriculture Movements (IFOAM), the Association started its operations with the aim of creating a basis for conducting organic farming in Poland. According to the IFOAM, the members of the Association to co-organize a number of training courses for farmers and also supported activities to shift conventional to organic farming [Zuba 2012]. An important factor that significantly influenced the growth of interest in organic farming was a partial reimbursement of the costs of farm certification, conducted in Poland since 1998 and introduced in the next payment for area of agricultural land.

The observed increase in interest in organic production in the agriculture does not follow only from the financial support offered to farmers. An important factor was the increase in awareness of the public both for environmental protection and quality of food consumed. The dynamic development of organic production was associated with the Polish accession to the European Union. Since 2004 in Poland implemented the Common Agricultural Policy and the national agri-environmental program. The progressive development of organic farming in the EU resulted primarily from the existence of regulation. Poland, as an EU member state must respect EU rules prevail over national legislation. By overriding regulatory acts in force since 1 January 2009 are: Council Regulation No 834/2007 of 28 June 2007 on organic production and labeling of organic products with later edited [Dz.U. L 189/1, 20.07.2007] and Commission Regulation (EC) No 889/2008 of 5 September 2008 [Dz.U. L 250, 18.09.2008] laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labeling of organic products with regard to organic production, labeling and control. According to the Decree 834/2007 ecological processed products should be produced using methods that guarantee respect the principles of organic production and help to maintain the essential characteristics of the product at all stages of production. According to Regulation 834/2007 the main guidelines for organic agriculture practices associated with the production of organic products are: proper feeding of animals by, among others, providing feed of organic origin and maintenance of welfare in accordance with the Act of 11 March 2004 on the protection of animal health and control of infectious animal diseases [Dz.U. 2008 Nr 213 poz. 1342]. Regulation also imposes: a ban on growth promoters, synthetic amino acids and antibiotics, prohibition of industrial concentrates, complete feed and feed containing GMOs plants.

The introduced changes in the legislation of the EU sparked the need to adapt their national legislation to the requirements of the European Union. The consequence was the adjustment of the Polish act on organic farming. The current law of 25 June 2009 on organic farming [Dz.U. 2009 Nr 116 poz. 975] codified the legal conditions of conducting organic production in Poland most of all helped to highlight the importance of the agriculture sector for the country.

With the introduction of legal acts regulating the principles of conducting organic farming actions were taken to support this method of production. Essential part of a policy of financial support for organic farming are agri-environmental programs. Within the scope of programs, farmers receive financial compensation for activities related to environmental protection and the conservation of natural resources and rural cultural heritage elements of. Development and implementation of agri-environment is a necessary condition for the fulfillment of the countries belonging to the European Union. Together with Polish accession to the European Union there has been a number of changes in the functioning of Polish agriculture. The realization of the so-called multi-annual programs, whose main objective is to promote biodiversity in agriculture. The first program was the Rural Development Plan for the years 2004–2006 (PROW 2004–2006), the second and the Rural Development Programme for the years 2007–2013 (RDP 2007–2013). The program consisted of 9 packages of agri-environmental (pack of 2 concerned the organic farming). Currently existing program, focusing on organic agriculture is the Rural Development Plan for the years 2014–2020 (RDP 2014–2020).

Crucial to promote and support organic production is the Action Plan for Food and Farming in Poland for the years 2011–2014. The plan outlines actions that should be taken and implemented by the Ministry of Agriculture and Rural Development and subordinate units and supervised. Overriding objective of the program is the implementation of lasting tasks such as market development of organic agricultural products, increase consumer awareness of organic products, the development and improvement of production technology and the availability of information in the sector. In addition, the program aims to: improve the functioning of the system of quality control and certification, environmental protection and organization of cooperation between different actors in the organic food market.

Cooperation between the various stakeholders of organic agriculture is an essential element for the success of this sector in the market. Some attempt to integrate the various links in the chain of organic food in the Lublin province is a cluster environment „Organic Food Valley” (DEZ). The program was included in the Regional Innovation Strategy, Development Strategy of the Lublin Province and the National Development Plan, set up and by the „EkoLubelszczyzna” [Zuba 2012]. „Organic Food Valley” is the first cluster in the country aimed at promoting and developing the organic food sector. Furthermore, the purpose of the cluster is also improving the competitiveness and innovation of enterprises belonging to the cluster, increasing the scale of production as well as increasing the number of jobs in the sector of organic farming [Jończyk 2014].

Lublin region has typically agricultural character, and therefore its importance for agribusiness sphere is very large. Lublin region has favorable conditions for the development of organic farming, agro-tourism and the use of alternative energy sources. The potential the Lublin region can be used, inter alia, thanks to the support and promotion programs. Regional Innovation Strategy for the province of Lublin emphasizes the values of the region, the possibility of using existing weaknesses (e.g. low level of agricultural technology and urbanization) as advantages, which could provide a basis for the development of organic production.

Also, you can see the action for organic farming by local authorities Lublin Province. Developed by the Ministry of Regional Development Operational Programme Development of Eastern Poland (OP DEP) is an initiative to support business clusters.

The program defines industries having essential influence on the development of agriculture, among others, organic food production, food processing, production of high quality food and the production of renewable energy sources [Zuba 2012].

Organic production in the Lublin region in the light numerical data

In the last decade in Poland there were recorded almost 12 fold increase in the number of organic farms. According to data from the Central Statistical Office in 2002 throughout Poland were 882 certified organic farms and 1095 farms in transition period. The total area of agricultural land occupied by these farms amounted 43 828 ha. In 2011 in Poland was recorded 15 234 certified organic farms and farm in 8215 during the conversion period.

The increase in the number of organic farms largely due to launched under the Rural Development Programme support systems, high interest importers shopping in Poland, as well as the increasing demand for organic products in the domestic market. The conditions are increasingly emerging crises related to food quality, certified agricultural products are becoming more and more popular among consumers.

According to IJHARS in 2012, there has been an increase in the number of organic processing plants in 13 voivodeships of Poland. The largest increase was observed in the organic processing Pomorskie voivodeship (an increase from 11 to 17) and Lubelskie (an increase from 28 to 36). According to the data from 2013 years it follows that Lubelskie voivodeship occupies fifth place in Poland in terms of the number of organic producers. In the Lublin region there are already 2222 certified organic farms (Tab. 1).

Table 1. The status of organic farming in the Lubelskie voivodeship in the years 2011–2012*

Tabela 1. Stan rolnictwa ekologicznego w województwie lubelskim w latach 2011–2012*

Specification/Wyszczególnienie	2011	2012
Organic producers in total/Producenci ekologiczni ogółem	2111	2222
Agricultural producers in total/Producenci rolni ogółem	2065	2174
Agricultural producers of land after the completion of the conversion period/Producenci rolni z gruntami po zakończonym okresie konwersacji	1469	1613
Agricultural producers with land during the conversion period/Producenci rolni z gruntami w okresie konwersacji	596	561
Processing factory/Przetwórnice	28	36
The others organic producers/Pozostali producenci ekologiczni	41	48

* According to data IJHARS [2013].

Ecological dairy products in the Lublin region

Due to the dynamic development of organic farming and organic food sector and increasingly gaining popularity among consumers milk organic products. Although Lublin region is one of the regions with a high predisposition to the development of ecological farms, there are barriers to the development of this sector. The success of organic production depends on its profitability and competitiveness against conventional agriculture and integrated. Polish dairy farms, operating since 2004 in the European market are faced with very different challenges compared to other EU countries. These differences are mainly due to efficiency, different organization of production and the

sustainability of farms [Gill 2007, Szajner and Szczególska 2007]. The chance to increase the competitiveness of Polish farms specializing in organic milk production to other countries of the European Community are lower production costs [Józwiak and Mirowska 2006]. The lower economic efficiency of milk production in the EU, compared with Polish farms due both to higher direct costs and expensive factors of production incurred by western EU producers.

The functioning of ecological farms producing organic milk is subject to strict regulations, both national and EU. Farmers are obliged therefore to control the entire production process with a view to obtaining the product with the highest quality of care as well as microbiological. Taking into account the value of the milk obtained from organic production deserves special attention milk sourced from native breeds such as white-backed cattle. Milk from of these breeds has a higher biological value and improved technological parameters [Barłowska and Litwińczuk 2006]. It contains more lactose, while protein and fat content is at a level comparable to conventional milk. Bearing in mind the health aspect, the organic milk is also a high proportion of omega-3, vitamins and antioxidants [Gustaw *et al.* 2011]. Furthermore, as confirmed by recent studies, organic milk has preferable proportions of fatty acids compared to milk from cows harvested from conventional breeding [Benbrook *et al.* 2013].

Organic cold meats in the Lublin region

Ecological cold meats produced by traditional methods, together with the principles of organic farming are an increasingly popular alternative to meat products produced on an industrial scale. The basis for the production of a good cold meats is raw material. The meat does not need high-quality stabilizers, which improves the color and consistency or taste and flavor enhancers. For organic production of pork meat in Poland are recommended native breeds such as Pulawska, perfectly adapted to local environmental conditions: climate, soil, feed. In pigs, native breeds are far less likely to defect meat, compared with animals breed highly productive. An additional important advantage is the fact that meat from pigs of Pulawska breed, has a clear marbling. Intramuscular fat, along with a favorable structure of muscle fibers positively affect the qualities of culinary taste of meat, and provide a unique flavor to products [Czarnecka-Skubina 2007]. Accordance with the EU Regulation on organic food and farming (EC) No 834/2007 (Dz.U. L 84/9, 31.03.2010, organic products should consist at least 95% of ingredients from organic farming, art. 6 regulation presupposes the possibility of producing organic food from non-organic products, if this component is not organic counterpart. According to the Commission Regulation (EU) No 1129/2011 [Dz.U. L 295 12.11.2011] „nitrite (E 249–250) are needed as a preservative in meat products, the possible growth of harmful bacteria, in particular *Clostridium botulinum*”. Eko-cold meat should consist of three materials: meat of excellent quality ecological spices and salt or sodium nitrite, as a means affecting the safety of the finished product. It should be produced based on traditional recipes, using manufacturing technologies compatible with the sustainable development such as fermentation, smoking, drying, salting, cooling.

The ecological eggs

As expected organic agriculture, the rearing of poultry, in particular laying hens, based on the principle of respect for the welfare of the birds. Specific requirements in this

regard are set out relevant EU and national legislation, such as Council Regulation No 834/2007, Commission Regulation (EC) No 889/2008, the Act of 25 June 2009 on organic farming [Dz.U. 2009 Nr 116 poz. 975] and the Regulation of the Minister of Agriculture and Rural Development on certain conditions for organic production of 18 March 2010 [Dz.U. 2010 Nr 56 poz. 348].

Ecological breeding is characterized by a specific conditions, so it is very important the selection of appropriate breeds or hybrids of laying hens. This includes the ability to adapt to local environmental conditions, their vitality and resistance to disease. Such features have primarily native birds covered by the protection program, including the characteristic of the Lublin region Greenleg Partridge. The hens of Greenleg Partridge endure about 180–190 eggs per year with a mass of 58–60 g. The price of one egg ranges from 1.20 to 1.50 zł/pcs. It's about two/three times more than the usual egg laying. Eggs have dietary properties, because they have a lower content of cholesterol in the yolk (less fractions of LDL and more good HDL) and favorable n-6/n-3 fatty acid ratio and lower allergenicity, therefore, may be advisable for people with celiac disease [Cywa-Benko *et al.* 2000; Sokolowicz *et al.* 2012]. In addition, this breed egg yolks have the highest content of vitamin E and A, compared to hens raised in conventional farms [Krawczyk 2009].

Marking of products from organic farms

Organic farming is one of the fastest growing agricultural sectors in the world, and especially in the European Union. And the number of ecological food products each year is increasing. Therefore, knowledge on organic crop production, animal husbandry and the production of organic products is very important. Organic products produced in ecological farms must be certified as complying with the principles of organic farming. Such a product can be labeled as organic after compliance with Regulation Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for implementation of Council Regulation (EC) 834/2007 on organic production and labeling of organic products with regard to the production eco-labeling and control, and the Commission Regulation (EU) No 271/2010 of 24 March 2010 and the basic national legal act namely the Law on Organic Agriculture on 25 June 2009 [Dz.U. 2009 Nr 116 poz. 975]. Put into effect on 1 July 2010, Commission Regulation (EU) No 271/2010 of 24 March 2010 [Dz.U. L 84/9, 31.03.2010] relating to compulsory labeling of packaged foods Community logo and place information defining the place of raw material production, all of which made the final product. Therefore, from 1 July 2012 the organic farming logo has become mandatory labeling of packaged organic products. „The logo for organic farming” must meet a number of graphics requirements. These include, inter alia recommendations for the color (i.e., green Pantone in the colors or black and white), the dimensions (length of at least 9 mm, a width of at least 13.5 mm, and the ratio of the height to the width must be equal to 1 : 1.5). Moreover, in case of very small packages the minimum size of the logo can be reduced to a height of 6 mm. Currently, the sign of organic agriculture is known throughout Europe, and the products bearing that mark are sought and valued. Throughout the world a growing demand for high quality food which is produced under the strict control of the certification bodies, namely organic food. Therefore, the European Union has introduced a system of control and certification of organic production. A graphical representation of that the product has been manufactured

in accordance with this system, is the Community mark „Organic Farming” located on the product label.

Consumers choosing products with the logo of the Community and the designation of the product acquisition control system can be sure that a minimum of 95% of the agricultural ingredients come from organic production. What’s more, these products can either be sold by the manufacturer, or be properly packaged and labeled [Rozporządzenie Komisji (WE) nr 889/2008, art. 57]. Furthermore, in accordance with the Regulation, the product is labeled with information on the percentage of the ingredients of agricultural origin which have been produced in accordance with the principles of organic production.

The label shall contain the following information [Rozporządzenie Komisji (UE) nr 271/2010]:

- the name and number of the approved certification body, which is subject to the producer (Tab. 2),
- the name and address of the manufacturer and product name,
- the words „Organic Farming – EC Control System”,
- Community trade mark „Organic Farming”.

Information on the energy and nutrient content shall be given per 100 g or per 100 ml of the product. Currently, it is obligatory labeling only in relation to certain products, such as beef, honey, olive oil. In the future, will be the responsibility of the determination of other types of meat, including poultry meat, sheep meat, goat meat fish meat and meat which are part of processed foods [Bogusz-Kaliś 2011].

Table 2. List of certification bodies for organic farming in Poland [MRiRW 2011]

Tabela 2. Rejestr jednostek certyfikujących w rolnictwie ekologicznym w Polsce [MRiRW 2011]

The identification number assigned to authorizing the certification body Numer identyfikacyjny nadany w upoważnieniu jednostce certyfikującej	The name of authorized certification body Nazwa upoważnionej jednostki certyfikującej
PL-EKO-01	Ekogwarancja PTRE Sp. z o.o.
PL-EKO-02	PNG Sp. z o.o.
PL-EKO-03	Cobico Sp. z o.o.
PL-EKO-04	Bioekspert Sp. z o.o.
PL-EKO-05	BioCert Małopolska Sp. z o.o.
PL-EKO-06	Polskie Centrum Badań i Certyfikacji S.A.
PL-EKO-07	AGRO BIO TEST Sp. z o.o.
PL-EKO-08	TÜV Rheinland Polska Sp. z o.o.
PL-EKO-09	Centrum Jakości AgroEko Sp. z o.o.
PL-EKO-10	SGS Polska Sp. z o.o.

In accordance with the Regulation of the European Parliament and of the Council (EU) No 1169/2011 of 25 October 2011 on the submission of information to consumers about food labeling is appropriate to obtain a high level of health protection for

consumers and to guarantee their right to information [Rozporządzenie Parlamentu Europejskiego i Rady (UE) nr 1169/2011].

CONCLUSIONS

The organic production in Poland is located now in the phase of dynamic development. It applies to both plant production as well as animal production. For the production of organic products of animal origin should be emphasized the possibility of using native breeds of farm animals. Particular potential in this aspect is in the Lublin region, where indigenous animals breeds are kept such as: pigs of Pulawska breed, Whitebacked cattle, Uhruska sheep, chickens – Greenleg partridge. Products derived from them can not only be healthy, but also provide culinary delights attraction compared to the commonly available.

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- Rozporządzenie Komisji (UE) nr 271/2010 z dnia 24 marca 2010 r. zmieniające rozporządzenie (WE) nr 889/2008 ustanawiające szczegółowe zasady wdrażania rozporządzenia Rady (WE) nr 834/2007 w odniesieniu do unijnego logo produktów ekologicznych (Dz.U. L 84/9, 31.03.2010).
- Rozporządzenie Ministra Rolnictwa i Rozwoju Wsi w sprawie niektórych warunków produkcji ekologicznej z dnia 18 marca 2010 r. (Dz.U. 2010 Nr 56 poz. 348).
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Streszczenie. Celem pracy było przedstawienie prawnych, ekonomicznych oraz społecznych uwarunkowań produkcji ekologicznej żywności na Lubelszczyźnie. W pracy uwzględniono prawne aspekty funkcjonowania gospodarstw ekologicznych, zasady znakowania produktów ekologicznych oraz zmiany liczby gospodarstw w ostatnich latach. Zwrócono uwagę na niektóre produkty ekologiczne dostępne na terenie Lubelszczyzny, identyfikację problemów i barier oraz szans dla rozwoju tego sektora produkcji.

Słowa kluczowe: ekologia, żywność, zwierzęta gospodarskie, Lubelszczyzna