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**DEVELOPMENT OF ORGANIC PROCESSING OF AGRICULTURAL PRODUCTS IN POLAND IN THE YEARS 2004-2010**

*ROZWÓJ PRZETWÓRSTWA EKOLOGICZNEGO PRODUKTÓW ROLNYCH W POLSCE W LATACH 2004-2010*

**Key words: organic processing, organic farming, organic farms, eco-farms, organic food**

*Słowa kluczowe: przetwórstwo ekologiczne, rolnictwo ekologiczne, gospodarstwa ekologiczne, żywność ekologiczna*

**Abstract.** Early 21<sup>st</sup> century is a period of rapid growth of Polish organic farming. The main factors contributing to the development of eco-agriculture include: adjustment of national regulations governing this type of agricultural activity to EU laws, improvement of the system of monitoring of organic farming and availability of financial subsidies from EU resources. Consequently, an over five-fold increase in the number of eco-farms and a six-fold expansion of the total area occupied by organic farming were recorded in 2004-2010. Also, the share of areas used for eco-farming in the total arable land area rose systematically from 0.3% in 2002 to 2.8% in 2010. Growing supply of products of eco-farming resulted in an increase of the number of enterprises specializing in their processing. The article is an attempt at assessing the development status of organic product processing. The most important factors affecting organic processing and changes occurring after Poland's EU accession in the geographical distribution of organic processing plants are also outlined.

**Introduction**

In 2009, despite a general economic recession resulting in a reduction of the consumers' purchasing power, the international market in organic food recorded no losses. The sale of eco-foods (including beverages) achieved nearly 55 billion USD, the largest markets being the USA, Germany and France. The value of the organic food market in Europe increased by ca. 5% relative to 2008 and attained the figure of 18.4 billion EUR. The European eco-food market, however, was very diverse, depending on the region. The greatest growth dynamics were observed in France and Sweden, while stagnation was recorded in Germany and in the Czech Republic. Ireland and the UK, on the other hand, experienced a slump on the market. Among European countries the highest consumption of organic products, worth over EUR 130.00 per one inhabitant, was recorded in Denmark and Switzerland [Willer 2011, Kilcher 2011].

Poland still has a relatively small demand for organic agricultural products and eco-foods. Major factors affecting the level of demand in Poland include price (organic products are more expensive than food items produced by conventional farming methods), limited availability and narrow range of types [Komorowska 2009, Żakowska-Biemans 2006]. The system of eco-food distribution is still in its infancy. The most important distribution channels are: direct sales (various types of country fairs, exhibitions, trade fairs, via the Internet, directly in eco-farms) and sales via stores specializing in the sale of organic foodstuffs, usually located in large cities. Due to low concentration of organic farming activities and low level of organization among organic agricultural producers, eco-food produced in Polish organic farms or organic processing plants has only just begun the process of establishing its presence in Polish super- and hypermarkets, where it has to face competition with foreign products. Obviously, there is a small group of producers that have already accumulated extensive experience in using this sales channel. The group includes enterprises operating as part of large food concerns, e.g. well-known baby food manufacturers Nestlé Polska S.A. and Nutricia Polska Sp. z o.o (member of the Danone Group), or large companies which have been operating on the market independently for more than ten years, such as Sante, best

known for its muesli cereals and soybean products<sup>1</sup>. A broad selection of Polish organic products supplied by local producers is offered at „Piotr i Paweł” chain stores<sup>2</sup>, while the product range available at other chain stores, such as Auchan and Tesco, has also been expanded<sup>3</sup>. Consumers of organic foodstuffs continue to purchase a relatively limited product assortment. Even though the trend is, to a considerable extent, associated with the specific features of organic food products (in order to keep organic foods both healthy and flavoursome, they can only be processed to a limited degree), the development status of organic agricultural product processing industry is growing in importance. Food articles made in organic processing facilities enrich the assortment of eco-foods available and encourage consumers to buy organic agricultural and food products. Processing is becoming an increasingly important distribution channel for products grown in eco-farms, facilitating their sale, for example by means of procurement contracts.

The main assumptions of the processing of organic farm produce include maintaining, as far as possible, the original biological value of starting materials. Consequently, traditional methods are often used for the processing of organic raw materials. Under the current legal regulations, products manufactured at processing plants are regarded as organic if at least 95% of their components have been produced using organic methods. No ionizing radiation or genetically modified organisms may be used during the technological process<sup>4</sup>. However, organic production can be combined with processing performed using conventional methods<sup>5</sup>.

The assessment of the development status of the Polish organic product processing industry, including major factors impacting organic processing and changes which occurred in 2004-2010 in the geographical distribution of organic processing plants, is based on materials obtained from the Ministry of Agriculture and Rural Development (2010 list of processing plants available from the Organic Agriculture Unit of the Department of Agricultural Markets) and data acquired from the Chief Inspectorate of Commercial Quality of Agricultural and Food Products (concerning the operation of organic farms and organic processing facilities in 2004-2010). Information available on websites of different companies dealing with the processing of organic farm produce was also taken into account.

Factors determining the development of organic processing of agricultural products in Poland following Poland's EU entry. Major factors influencing the growth of organic processing of agricultural products in Poland in 2004-2010 include: adaptation of Polish legal regulations governing organic farming and organic processing to EU laws in place, improvement of the system of monitoring organic farms and organic processing plants, changes in consumer attitudes, growing interest in the application of organic methods in agricultural production, as well as availability of EU subsidies for the organic processing of farm produce.

Under current regulations, the processing of organic farming products can only be performed in certified processing facilities. Certification bodies also carry out inspections in organic processing plants. As of mid-2011, Poland had 11 officially authorized certification bodies (lists are available, for example, on the websites of the Ministry of Agriculture and Rural Development and the Chief Inspectorate of Commercial Quality of Agricultural and Food Products). Businesses specializing in the processing of products of organic agriculture must satisfy sanitary and technical requirements laid down in appropriate food processing regulations. Starting an organic agricultural processing enterprise is regulated by provisions set out in Art. 28(1) of the Council Regulation (EC) No. 834/2007 and Art. 4 section 1 of the Act of 25 June 2009 on organic farming (Journal of Laws no. 116, item 975).

<sup>1</sup> The company, which is based in Warsaw and has a manufacturing plant in Sobolewo, is present in nearly all large chain stores (e.g. Auchan, Tesco, Intermarche, Real, Lewiatan), as well as exporting its products to EU countries (e.g. UK and Austria) and to the Middle East [[www.sante.pl/mk59/o\\_firmie/pl](http://www.sante.pl/mk59/o_firmie/pl)].

<sup>2</sup> The products were launched in 2004.

<sup>3</sup> In 2002, Tesco chain stores started selling eco-food products (mainly vegetables), however the initiative eventually failed because of inadequate promotion and high prices; in addition, the suppliers were unable to meet the logistical demands [Zakowska-Biemans 2006]. The idea was resumed in 2010, with ecological food being included in Tesco's offer again.

<sup>4</sup> Enterprises specializing in the production of ecological food products are only allowed to use components listed in Annex VI to the Council Regulation (EEC) No 2092/91 [[www.minrol.gov.pl](http://www.minrol.gov.pl)].

<sup>5</sup> If this is the case, producers are obliged to ensure isolation of different types of technological processes, and to notify the certification body of the fact that ecological production is combined with conventional production methods.

The development of organic processing was also boosted by growing consumer interest in organic food products – a trend observed both in Poland and abroad. Polish consumers are increasingly aware of health-related issues, which translates into growing popularity of organic foodstuffs. The demand for organic products is also influenced by the general popularity of the “eco-lifestyle” and public concerns over the safety of consuming foods produced by traditional methods (risk of transmission of diseases such as BSE) and genetically-modified food items [Luczka-Bakuła 2005]. In these aspects, the attitude of Polish consumers complies with global tendencies in consumer behaviours [Zakowska-Biemans 2006].

Early 21<sup>st</sup> century is a period of rapid growth of Polish organic farming. An over five-fold increase in the number of eco-farms and a six-fold expansion of the total area occupied by organic farming were recorded in 2004-2010. In 2010, the number of organic farms was over 20,000 (with the highest number recorded in Zachodniopomorskie, Warmińsko-Mazurskie and Małopolskie provinces), while the overall arable land area in which organic farming methods were applied exceeded 520,000 hectares (with the greatest areas in Zachodniopomorskie, Podlaskie, Dolnośląskie and Lubuskie provinces). Also, the share of land areas used for eco-farming in the total arable land area rose systematically from 0.3% in 2002 to 2.8% in 2010. Growing supply of products of eco-farming resulted in the increase of enterprises specializing in their processing.

A significant factor supporting the processing of organic farm produce were financial resources available under the Rural Development Programmes (PROW 2004-2006, PROW 2007-2013). PROW 2007-2013 comprises two measures: „farmer involvement in food quality systems” and „informative and promotional activities”. Furthermore, funds from other measures can also be applied for on general principles. Support for the organic processing of agricultural products is also included in the Action Plan for Organic Food and Agriculture in Poland for 2007-2013 [2007] under measure 15.

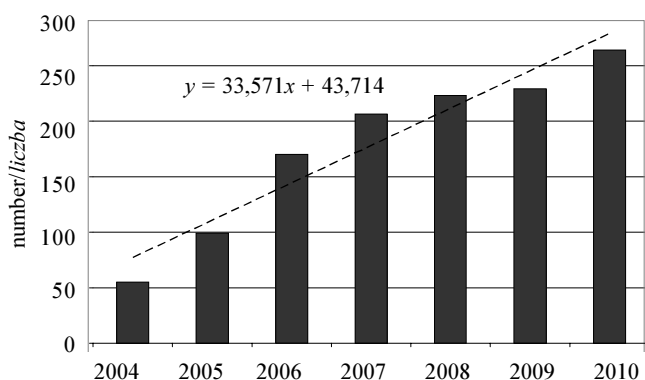
### **The state of development of organic food processing in Poland**

The steady growth in the number of organic farms in Poland and the increasing area of organic crops have been observed since the 90`s of the previous century. However, it was not until the beginning of the 21<sup>st</sup> century that the number of organic food processing plants started to grow a bit more rapidly. In 2004, 55 entities were involved in organic food processing. Year by year there were more and more processing plants with certificates confirming that they met all the requirements of organic processing (Fig. 1). In the years 2004-2010 the number of organic food processing plants increased more than 6-fold to reach the level of 264 facilities. The linear trend function ( $y = 33.571x + 43.714$ ) indicates that in the analysed period the number of organic food processing plants increased by ca. 34 facilities on the annual average basis. However, the development rate of organic food processing industry varied strongly over time. The greatest increment of the processing plants number was observed in the years 2005-2006 (71 new facilities) and in the years 2004-2005 (an increase by 44 facilities), while in the years 2008-2009 the number of organic food processing plants increased by merely 6 entities.

In 2004 the spatial distribution of the food processing plants which applied organic production methods varied strongly (Tab. 1). Almost 30% of all organic food processing facilities in Poland operated within the area of two provinces: that of Lubelskie (8 processing plants) and Masovia (8 processing plants), where organic agriculture grew rapidly. There was no organic food processing in the provinces of Lubuskie and Pomerania, while only one facility of this kind was found in Opolskie province. The location of some of the organic food processing plants reflected the market conditions. Twenty per cent (20%) of the processing plants operated in cities with populations exceeding 150,000 (3 in Warsaw, 2 in Toruń and in Bielsko-Biała, 1 in Cracow, in Lublin, and in Poznań). Organic food processing facilities tended to concentrate within some conurbations. The greatest number of processing plants was found in the conurbations around the following cities: Warsaw (6 entities)<sup>6</sup> and Poznań (4 entities)<sup>7</sup>. The location of the remaining entities was connected with the raw material supply area. The range of the processed products did not vary too much. Nearly 1/3 of the organic food processing plants processed fruit and vegetables, while 20% of them processed cereal and their derivatives. Most of them were locally operating entities, e.g. bakeries. The biggest processing plants included: Nutricia Zakłady Produkcyjne Sp. z o.o. based in Opole, Herbapol Białystok S.A., Zakłady Drobiarskie „Koziegłowy” Sp. z o.o. (Wielkopolska Province).

<sup>6</sup> These were 3 processing plants from the municipality of Warsaw and 3 from the Western Warsaw County.

<sup>7</sup> In Poznań region there were 3 organic food processing plants and 1 in the municipality of Poznań.



**Figure 1. Number of organic processing plants in Poland in the years 2004-2010**

*Rysunek 1. Liczba przetwórní ekologicznych w Polsce w latach 2004-2010*

Source: own study based on Plan Działania...2007

*Źródło: opracowanie własne na podstawie Plan działania...2007*

In the years 2004-2010 the greatest increase in the number of organic food processing plants, amounting to more than 20 facilities, was observed in the following provinces: Masovia (an increase of 37), Wielkopolska (29), Lubelskie (26), Małopolska (21). Only one processing plant obtained an organic certificate in Opolskie Province, where this type of business activity is of marginal importance (there are only 2 facilities). The disproportionate spatial distribution of organic food processing facilities has continued - in 2010 slightly more than 42% of the facilities operated within the area of only three provinces: Masovia (45 processing plants), Lubelskie (34) and Wielkopolska

(33). Organic food processing is the least developed in the provinces: Opolskie (2 processing plants), Lubuskie (5), Podlaskie (6) and Warmia-Masuria (8). Compared to 2004, the concentration of organic food processing plants increased even more in major cities and their direct vicinity – in particular in the conurbations of Warsaw, Poznań and Cracow, while a considerable dispersion of such facilities is observed in the areas where organic farming developed intensively at the beginning of the 21<sup>st</sup> century (e.g. in

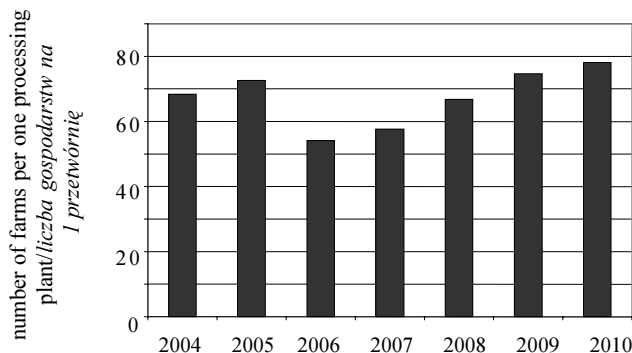
**Table 1. Processing plants of organic agricultural products in Poland in 2004 and 2010**

*Tabela 1. Przetwórní rolniczych produktów ekologicznych w Polsce w latach 2004 i 2010*

Provinces/ Województwa	Organic processing plants/ Przetwórní ekologiczne				Area of organically farmed land [ha]/ Powierzchnia ekologicznych UR		Number of organic farms/ Liczba ekologicznych gospodarstw	
	2004		2010		2004	2010	2004	2010
	number/ liczba	%	number/ liczba	%	one processing plant/ na 1 przetwórníę	one processing plant/ na 1 przetwórníę	one processing plant/ na 1 przetwórníę	one processing plant/ na 1 przetwórníę
Dolnośląskie	2	3.6	10	3.8	4 394.5	4 107.0	99.0	123.2
Kujawsko-pomorskie	6	10.9	13	4.9	286.6	585.2	14.8	25.2
Lubelskie	8	14.5	34	12.9	713.2	1 042.7	49.4	57.6
Lubuskie	0	0.0	5	1.9	-	8 062.3	-	169.2
Łódzkie	4	7.3	14	5.3	298.9	511.4	17.8	29.4
Małopolskie	2	3.6	23	8.7	3 813.2	801.9	348.0	92.9
Mazowieckie	8	14.5	45	17.0	759.4	787.0	54.3	42.7
Opolskie	1	1.8	2	0.8	446.7	1 051.6	26.0	37.5
Podkarpackie	3	5.5	22	8.3	3 570.5	1 480.6	143.3	96.9
Podlaskie	3	5.5	6	2.3	1 287.8	7 209.4	69.0	338.7
Pomorskie	0	0.0	12	4.5	-	1 979.0	-	53.8
Śląskie	2	3.6	11	4.2	243.3	360.4	23.5	19.9
Świętokrzyskie	3	5.5	10	3.8	1 664.9	1 342.8	182.3	124.8
Warmińsko-mazurskie	3	5.5	8	3.0	3 165.5	10 221.7	81.3	285.6
Wielkopolskie	4	7.3	33	12.5	1 204.0	903.3	17.5	22.5
Zachodniopomorskie	6	10.9	16	6.1	2 120.8	6 747.5	29.3	150.9
Polska	55	100.0	264	100.0	1 504.2	1 985.1	68.4	78.1

Source: own study based on Raport o stanie... 2007

*Źródło: opracowanie własne na podstawie Raport o stanie... 2007*

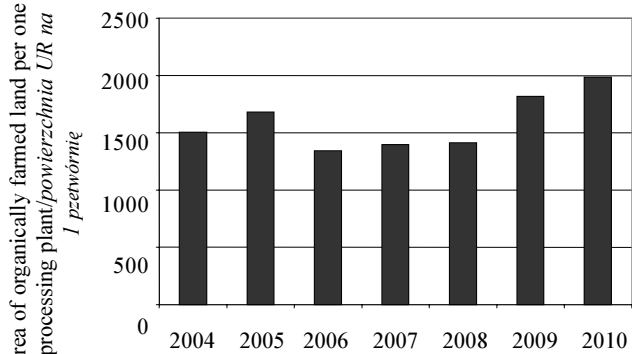


**Figure 2. Number of organic farms per one organic processing plant in 2003-2010**

*Rysunek 2. Liczba gospodarstw ekologicznych przypadająca na jedną przetwórnię ekologiczną w latach 2003-2010*

Source: see fig. 1

*Zródło: jak na rys. 1*



**Figure 3. Area of organically farmed land per one organic processing plant in 2003-2010**

*Rysunek 3. Powierzchnia użytków rolnych użytkowanych ekologicznie przypadająca na jedną przetwórnię ekologiczną w latach 2003-2010*

Source: see fig. 1

*Zródło: jak na rys. 1*

the provinces of Lubelskie and Podkarpacie). As a result, the location of the food processing industry applying organic processing methods were connected with both the market and the supply area. The range of organic food products subject to processing was expanded to include e.g. malt, herbal teas, cider, chocolate, oil etc, although the majority of processing plants continued to concentrate on processing fruit, vegetables and cereals. More and more organic food processing plants have been interested in milk and meat processing.

Organic food processing is done predominantly by various partnerships and companies<sup>8</sup> (first and foremost limited liability companies), farmers rarely decide to operate organic food processing facilities. Farmers seem to be discouraged by the regulations and the formalities connected with running an organic food processing business [Pokora-Kalinowska 2011].

Although in the analysed period there were more and more certified processing plants, their development was too slow to meet the increase in the number of organic farms and the area of organically farmed land – particularly in the end of the first decade of the 21<sup>st</sup> century (Fig. 2 and 3). This negatively affects the organic food supply in Poland, which continues to be insufficiently diversified.

## Conclusions

Organic food processing industry in Poland is still in its initial phase of development. The supply market for the organic food processing sector has been growing, and it can be assumed that due to the considerable popularity of organic farming and the increase in organic foods consumption this trend will continue in the years to come. The spatial distribution of the entities entitled to operate organic food processing facilities is highly irregular. They are concentrated in the provinces of: Masovia, Wielkopolska, Lubelskie and Małopolska. The location of organic food processing plants is connected both with the markets (conurbations) and the raw material supply areas. Development of organic food processing business increases the possibilities to sell organic produce and contributes to a greater diversification of organic food assortments, which complies with the consumers' expectations. Organic food processing is hindered particularly by: significant dispersion of farms applying organic farming methods and their production scale which is too small to meet the processing industry needs, problems with permanent cooperation between raw material suppliers and processing businesses. In order to develop organic food processing industry in Poland, special attention should be paid to optimal use of the funds obtainable under Rural Development Programme for 2007-2013.

<sup>8</sup> In 2009 they accounted for nearly 88% of all processing plants.

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### Streszczenie

*Przetwórstwo ekologicznych produktów rolnych w Polsce jest dopiero w początkowej fazie rozwoju. Liczba przetwórci systematycznie wzrasta i zapewne w najbliższych latach trend ten się utrzyma, gdyż nadal utrzymuje się duże zainteresowanie prowadzeniem produkcji rolniczej metodami ekologicznymi (zwiększa się liczba ekogospodarstw i areal ekologicznych użytków rolnych. Równocześnie wzrasta zainteresowanie żywnością wyprodukowaną metodami ekologicznymi wśród polskich i zagranicznych konsumentów (szczególnie krajów UE). Istotne wsparcie dla przetwórstwa ekologicznych płodów rolnych stanowiły środki finansowe możliwe do uzyskania w ramach Programu Rozwoju Obszarów Wiejskich (PROW 2004-2006, PROW 2007-2013).*

*Przetwórci ekologiczni cechuje bardzo silne zróżnicowanie przestrzenne. Najwięcej przetwórci działa w województwie mazowieckim, wielkopolskim i lubelskim. Czynniki lokalizacyjne podmiotów zajmujących się przetwórstwem ekologicznych produktów rolnych mają zarówno charakter rynkowy (duże miasta np. Warszawa, Poznań), jak i surowcowy (województwo lubelskie). Rozwój tego typu przetwórstwa jest przede wszystkim jednym ze sposobów zwiększenia zbytu ekologicznych płodów rolnych. Działalność przetwórci przyczynia się także do większego zróżnicowania asortymentu żywności ekologicznej.*

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