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THE CHANGES ON THE ORGANIC FOOD MARKET

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Abstract. The paper presents the state of and changes to the organic food market in Poland between 2004 and 2014. The study covered production, processing, distribution chains, price levels and consumption of organic food. The analyses were carried out based on data obtained from reports on organic farming elaborated by the AFQI, and the author's own survey on organic and conventional food prices. It was found that the dynamically growing number of organic farms is not reflected in high growth dynamics in the organic food supply. Processing is also a weak element of the organic food market, showing low growth dynamics. Organic food processing is characterised by a spatial mismatch: in particular regions with considerable concentrations of organic farms, there are fewer processing plants than in regions with fewer farms. This spatial mismatch between production and processing of organic food means that some producers of organic raw materials are forced to sell their products as conventional food, which results in obtaining lower prices and lower profitability of production. The main change in organic food distribution chains is an increase in the share of specialist shops and growing availability of this kind of product in conventional stores. The study showed that average prices of organic food in Poland are high. Therefore, consumers regularly purchasing organic food make up a small share of the market.

Key words: change, production, distribution, process, consumption, organic food

INTRODUCTION

Among the new phenomena observed for a few decades in the food industry, the rapidly growing market for

organic food deserves special attention. The causes of this phenomenon should be seen in the increasing use of chemicals in agriculture and conventional food processing as well as in the increasing health-oriented and ecological awareness of consumers. A modern consumer attaches increasing importance to qualitative characteristics of food and is ready to pay more for it, if it meets certain criteria for health. Therefore, the market offers more and more products with composition enriched with health-promoting substances, e.g., biologically active substances. Among these products also organic food can be distinguished, for which there is a growing demand from certain segments of consumers.

The demand for organic food is one of many factors affecting the development of this food market. The second important factor is the supply of raw materials from organic farming and their processing. They can stimulate the development of this market, or lead to slowing it down. Consequently, insufficient supply results in maintenance of high prices of these products, which for some groups of customers can be a significant barrier to enter this market. Thus the question arises: what changes have occurred in this market in the last decade and what they consisted in? What factors limited the development of this market, and what were its stimulants?

RESEARCH MATERIALS AND METHODS

This article aims to discuss the changes that took place in the organic food market in the years 2004–2014. Production and processing of organic food, distribution,

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price level of organic food and consumption of these products were analysed. The article is based on figures obtained from reports on organic farming developed by the Main Agricultural and Food Quality Inspection (GIJHARS).

The article uses the selected findings of the author's own research conducted among organic processing companies in May and June 2016. The research was carried out using the survey questionnaire sent to all active organic processing plants according to the database of GIJHARS for 2014, i.e. to 356 entities. 75 questionnaires were returned, which represents 21.1% of active processing companies.

The analysis of the level of prices of organic food and conventional food uses the findings of the research conducted by the author in 2016. The findings of this research are in the article partly compared with the prices obtained by the author in the research conducted in the years 2005–2006. The research was carried out in organic and conventional shops located in the city of Poznań. In the first period, these were the monthly average prices obtained from weekly quotations from October 2005 to September 2006, while in the second period the research was conducted from February to July 2016.

PRODUCTION AND PROCESSING

Since its integration into the European Union, the market for organic food in Poland is the fastest growing market in the food industry. Its value in 2015 amounted to PLN 700 million, which accounts for 0.3% of the total food

market. It is estimated that within the next few years the average annual growth will be at the level of 20%.

Agricultural farms are the largest group of entities in the organic food market in Poland. In the years 2004–2014, their number increased dramatically, mainly due to the covering of organic agriculture with support under agri-environmental programmes, to which Polish farmers reacted with the dynamic increase in the number of organic farms, agricultural land areas and processing plants.

The dynamic development of organic agriculture in Poland, reflected in the quantitative characteristics of the number of farms and agricultural area, does not translate to the same extent to the growth of supply. According to the research, the commercialization rate for organic farms compared to conventional farms is by 30% lower (Nowogrodzka et al., 2013). A large percentage, i.e. 30%, are non-commercial units and those of very low commercialization, and every third farm is not engaged in any commercial production.

In the years 2004–2013, a steady increase in the number of organic farms and agricultural area was noticed, followed by the first decrease in those values recorded in 2014 (Fig. 1). The number of organic agricultural producers in 2004 amounted to 3760, and in 2013 it reached the highest level and amounted to 26 598, which means an increase by over 600%. Among of organic producers, the vast majority, i.e. 98%, were agricultural producers. The remaining 2% were the producers involved, inter alia, in the processing of organic products and the introduction of organic products on the market.

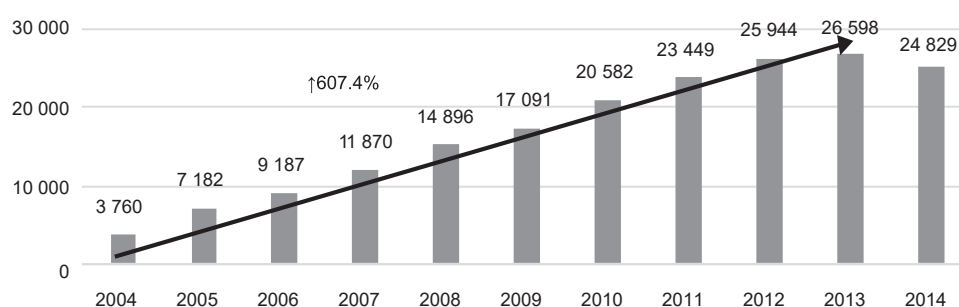


Fig. 1. The number of organic farms in the years 2004–2014

Source: own elaboration based on GIJHARS (Raport o stanie rolnictwa... 2004–2014).

Rys. 1. Liczba gospodarstw ekologicznych w latach 2004–2014

Źródło: opracowanie własne na podstawie danych GIJHARS (Raport o stanie rolnictwa... 2004–2014).

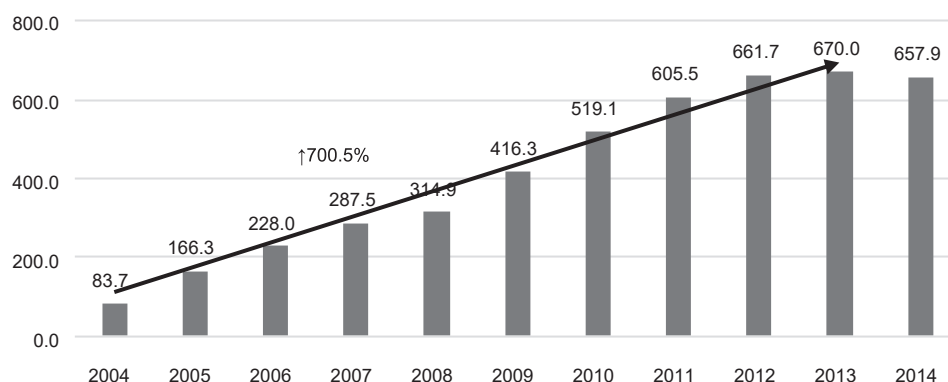


Fig. 2. Area of the organic agriculture land in the years 2004–2014 (thous. ha)

Source: own elaboration based on GIJHARS (Raport o stanie rolnictwa... 2004–2014).

Rys. 2. Powierzchnia ekologicznych użytków rolnych w latach 2004–2014 (tys. ha)

Źródło: opracowanie własne na podstawie danych GIJHARS (Raport o stanie rolnictwa... 2004–2014).

In the years 2004–2014, the area of organic agriculture land increased seven-fold from 82.7 thousand ha to 657.9 thousand ha (Poland is ranked the 3rd in the EU in terms of organic agricultural area). In the structure of agricultural area, the relatively high share accounted for meadows and pastures (30%), which had no direct contribution to the increase in the production of food raw materials.

On the organic food market in Poland, there is a shortage of supply of raw materials and organic food, resulting, among other things, from the principles of support for organic agriculture within agri-environmental programs. Until 2014, participation in these programs was not determined by the connection with production and market. Therefore, it was possible to fail to produce organic products and yet obtain support. The lack of requirement to connect the support with the production and the market was one of the main causes of slow growth in supply of these products. Therefore, the recorded increase in the number of farms and the area of organic agricultural land did not translate to the same extent into an increase in the supply.

In 2014, organic production was low and amounted to: 131.9 thousand tonnes of cereals, 17.1 thousand tonnes of potatoes, 48.5 thousand tonnes of fruit and 30.2 thousand tonnes of vegetables. Insufficient production of processed vegetables was supplemented by imports, which on the Polish market is quite significant. Limited vegetable production is particularly low compared to the relatively high demand. Its dissatisfaction

is one of the major problems of this market due to the fact that organic food consumers demonstrate the greatest demand for vegetables and fruit.

Organic farms in Poland to a small extent cooperate in order to strengthen their bargaining power in the market. This is evidenced by the fact that so far only 7 producer groups of organic farmers have been established. The vast majority of organic farmers show no interest in integration that could strengthen their market position in relation to the competitors in the processing and trade industries.

Apart from production, the weak part of the organic food market is the processing, which shows a slow growth rate. It is characterized by dispersion and small quantitative status in relation to the number of agricultural producers. In 2014, there were 484 processing plants, of which 356 demonstrated production. For 1 processing plant, there were more than 50 farms. The state of the processing industry is demonstrated by the fact that there were 3 organic slaughterhouses in 2014. However, in the structure of the processing industry the largest share belonged to processing of fruit and vegetables (34.1%) and processing of cereal products (19.8%). A small share, however, belonged to meat processing – 7%, milk processing and cheese making – 3.1%, and production of plant and animal fats – 2.4%.

Organic processing industry is characterized by spatial mismatch which consists in the fact that in some regions with a large concentration of organic farms

there are fewer certified processing plants than in the regions where the number of such farms is smaller. For example, Warmia-Mazury Province, with a large number of organic farms, has not even one milk processing plant. In turn, in Wielkopolska Province the number of processing plants is quite high, although the number of organic farms is low. The existing spatial mismatch between the production and processing of organic products forces some manufacturers of organic raw materials to sell them as conventional products, which results in obtaining lower prices and lowers the production profitability. It is closely linked to the development of the conventional processing industry in the individual regions, because the regulations allow for conducting organic processing in enterprises that deal with conventional processing (EC Regulation, 2008). It is a quite common practice, especially when processing plants encounter problems obtaining a certain amount of raw material derived from organic farming. In this case, the principle of temporal and spatial separation of organic and non-organic processing must be strictly observed.

From the survey carried out by the author in 2016 in ecological processing plants (75 entities surveyed)

it follows that the vast majority, i.e. 80%, conducts also conventional processing. Basically, these are mainly conventional processing plants adapted to carry out the processing of organic raw materials. The majority (53.3%) is slightly engaged in organic processing, with the participation not exceeding 10%. Among the weaknesses of the supplies of organic raw materials, the most significant was the insufficient amount of raw material (70% of indications) and the lack of continuity of supplies (60% of indications). Despite the low level of the processing industry, approx. 80% products goes to foreign markets, which in turn affects the insufficient state of the domestic supply.

DISTRIBUTION

Changes occurring in the distribution channels of organic food in Poland are partly similar to those observed in other European Union countries. In the case of direct sale from farms, a slight increase in its significance is recorded. This is mainly due to farmers themselves, who more and more actively participate in occasional organic trade fairs that are organized mainly in large cities (Warsaw, Poznań, Kraków and Gdańsk). Also the group of

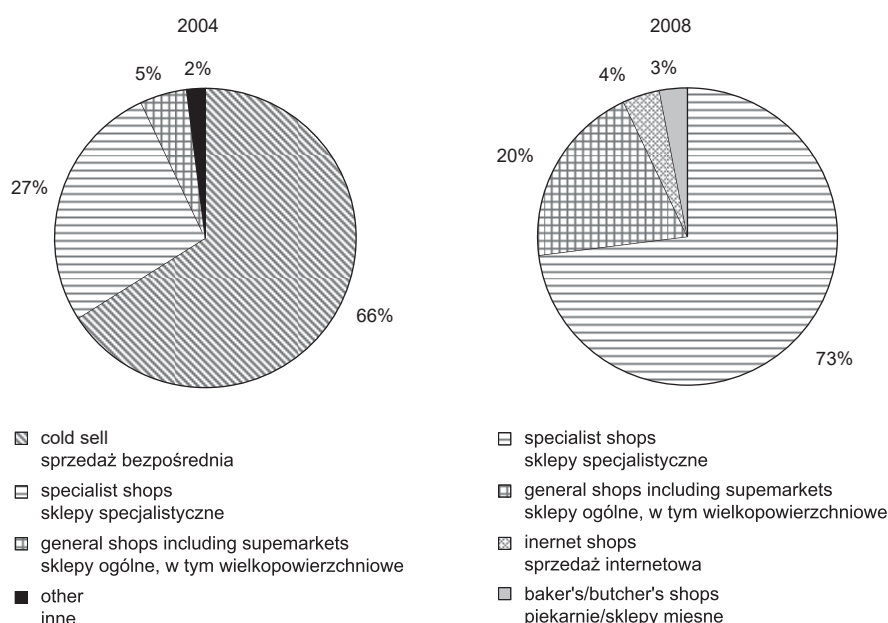


Fig. 3. Sales channels of organic food in Poland in 2004 and 2008

Source: Kwasek (2013).

Rys. 3. Kanały dystrybucji żywności ekologicznej w Polsce w 2004 i 2008 roku

Źródło: Kwasek (2013).

consumers interested in purchasing food directly from organic farms is growing.

The main distribution channel for organic food is indirect sale, which in recent years has gained importance. Specialist shops have currently the biggest share. While in 2004 direct sale prevailed, in 2008 sales in specialist shops predominated (Fig. 3). Currently, there are approx. 700 shops with organic food in Poland. This is a big change, given that in 2004 there were about 150 small shops specializing in organic food sales in Poland (Żakowska-Biemans, 2006). The increasing offer of organic products is also provided by networks of conventional shops (Piotr i Paweł, Alma, Lidl, Tesco, and Carrefour) and, to a lesser extent, some general shops.

In all channels of organic food distributions, the offer of dry products (groats, pastas), vegetables and fruit and their products is predominant. Especially narrow selection is observed in the group of milk and meat products and breadstuff, which is a consequence of insufficient number of active organic processing plants.

Currently, there are four sales networks offering organic food: Organic Farma Zdrowia, Żółty Cesarz, Swojski Spichlerz and Natura. The largest network of self-service delicatessen is Organic Farma Zdrowia, which consists of 38 stationary and internet shops. Organic products are also offered in smaller specialist shops with the so-called health food. The product range of such shops is very diverse and includes both certified organic products (50%) and the so-called health food (50%), whose production is based on natural and traditional manufacturing methods. Distinguishing one group of products from the other may be difficult for consumers, since the so-called health food often refers to the symbols and signs with references to biological and ecological associations. This, in turn, puts consumers at risk to unknowingly purchase non-organic products.

PRICES OF ORGANIC FOOD

In Poland, there are no regular quotations of retail prices of organic food, which is the case in Denmark, Germany or Italy. Also, there are no quotations of wholesale prices, which is the case in the United States (Zmarlicki and Brzozowski, 2013). The first research of prices of organic food in Poland was carried out in the years 2005–2006 (Łuczka-Bakuła, 2007). The research was carried out in 10 retail shops with organic and conventional food, located in the city of Poznań. The register

covered 36 products in four groups: vegetables and their products, fruits and their products, breadstuff and cereal products, and dairy products. Comparative studies of the prices of organic and conventional food were repeated by the author in 2016. The prices were registered in 6 organic shops (Organic Farma Zdrowia, Spizarnia Poznańska, Strefa Zdrowia, Vita Natura, Orkiszowe Pole, and Zdrowie i Tradycja) and in 3 conventional shops (Piotr i Paweł, Chata Polska, and Tesco) located in the city of Poznań. The register covered 26 products in the following groups: vegetables, fruit and their products, cereal products, dairy products and eggs.

From the conducted research it follows that the average prices of organic food are rather high, which is indicated by the level of the so-called price premium (the difference between the price of organic food and conventional food). It reached a level of approx. 50% to 335% (Table 1). In June, the upper range was higher by 65%, which resulted from a greater share of sales of imported vegetables (especially tomatoes) and fruit. Among the 26 products whose prices were recorded, in the case of 10 products the price premium reached the level of above 200%. These were products such as wheat flour (335%), strawberry jam (279%), tomatoes (271%), apple juice (265%), apples (261%), kefir (255%), rice (249%), eggs (231), yoghurt (214%) and potatoes (214%). The list of these products indicates their high differentiation. Therefore, it is highly likely that if the quotation covered a larger number of products, the list would be even more varied.

The existence of high price premiums in the organic food market in Poland was not confirmed by the research carried out by Bryła (2015, p. 17) among managers of grocery shops (unrepresentative sample of 89 grocery shops). In the opinion of those respondents, organic products are more expensive by 20%, wherein they were offered without any price premium in some shops, while its maximum level accounted for twice the average price of organic food. These data, however, are not reliable due to the fact that they are based only on the opinion of managers of grocery shops (the study does not specify the participation of organic products in those shops). However, regular price quotations provide information on the actual level of prices of these products in specialist shops, which are the main channel of their distribution.

A comparison of the price premium in the years 2005–2006 and in 2016 demonstrated that it has increased.

Table 1. Price level of organic and conventional food

Tabela 1. Poziom cen żywności ekologicznej i konwencjonalnej

Product Produkt	Average price of organic food Średnia cena żywności ekologicznej	Average price of conventional food Średnia cena żywności konwencjonalnej	Premium price Różnica cenowa (%)	Product Produkt	Average price of organic food Średnia cena żywności ekologicznej	Average price of conventional food Średnia cena żywności konwencjonalnej	Premium price Różnica cenowa (%)
Bananas (1 kg) Banany (1 kg)	13.68	5.09	168.76	Wheat flour (1 kg) Mąka pszenna (1 kg)	8.31	1.91	335.08
Lemons (1 kg) Cytryny (1 kg)	17.43	11.47	51.96	Brown rice (1 kg) Ryż brązowy (1 kg)	10.40	5.88	76.87
Apples (1 kg) Jabłka (1 kg)	8.70	2.41	261.00	Barley (500 g) Kasza jęczmienna (500 g)	4.83	2.60	85.77
Beetroots (1 kg) Buraki (1 kg)	5.71	1.97	189.85	Millet (400 g) Kasza jagłana (400 g)	6.17	3.47	77.81
Onion (1 kg) Cebula (1 kg)	6.38	2.70	136.30	Bruckwheat (500 g) Kasza gryczana (500 g)	8.55	4.32	97.92
Carrot (1 kg) Marchew (1 kg)	7.63	3.02	152.65	Macaroni (500 g) Makaron penne (500 g)	7.61	3.18	139.31
Pepper (1 kg) Papryka (1 kg)	29.73	12.99	128.87	Rice (500 g) Ryż (500 g)	8.94	2.56	249.22
Parsley (1 kg) Pietruszka (1 kg)	11.44	6.71	70.49	Eggs (10 pcs.) Jaja (10 szt)	12.09	3.65	231.23
Tomatos (1 kg) Pomidory (1 kg)	20.76	5.59	271.38	Butter (200 g) Masło (200 g)	9.47	3.40	178.53
Potatoes (1 kg) Ziemniaki (1 kg)	5.21	1.66	213.86	Milk (1 l) Mleko (1 l)	5.14	2.09	145.93
Strawberry jam (280 g) Dżem truskawkowy (280 g)	12.59	3.32	279.22	Natural yoghurt (200 g) Jogurt naturalny (200 g)	4.18	1.33	214.29
Apple juice (0,25 l) Sok jabłkowy (0,25 l)	4.67	1.28	264.84	Lind of buttermilk (400 ml) Kefir (400 ml)	6.28	1.77	254.80
Rye bread (1 kg) Chleb żytni (1 kg)	11.50	5.96	92.95	Cottage cheese (1 kg) Twaróg (1 kg)	33.37	14.52	129.82

*Prices recorded from February to July 2016.

Source: own calculations based on monthly price quotation.

*Ceny notowane od lutego do lipca 2016 roku.

Źródło: obliczenia własne na podstawie comiesięcznego notowania cen.

For example, in the years 2005–2006 price relations for three basic vegetables, i.e. beets, carrots and tomatoes, were at the level not exceeding approx. 130%, whereas in 2016 they were higher and in the extreme case (tomatoes) reached 271%. It seems that this was due to the

increase in the demand for organic food last years, with the simultaneous low level of production and the lack of mechanisms of competition among participants in this market, i.e. producers, processing companies and distributors. The trade of these products is in a particularly

advantageous situation, which is reflected, among other things, in the applied pricing policy. Small shops competing for consumer apply the policy of smaller margins and prices than the networks of larger organic shops. The high level of prices recorded in shops of the Organic Farma Zdrowia network stems from the policy of high trade margins. The basic margin in this network accounts for 30 percent or more. For instance, in most European countries it amounts to approx. 20%, while in the United States in some shops it reaches 100% (Smith, 2010). In the latter case, it is considered to be too high.

The level of prices quoted in the delicatessen of Organic Farma Zdrowia was the highest compared to other surveyed shops. In spite of this, the network was the most common place to buy organic food, which is reflected in the increasing rate of sales growth and profit rate of the Capital Group of Organic Farma Zdrowia S.A. It seems that the choice of this network by consumers is determined by a large range of products, the brand and its recognition as well as the location in shopping centres.

CONSUMPTION

The largest numbers of organic consumers are recorded in cities of over 100 thousand residents. From the point

of view of perception and motivation to buy organic food, Polish consumers are very similar to those from other European countries. A common feature of consumers of organic food is the belief that it is healthy and safe due to the production system, which precludes the use of agricultural chemicals and pesticides (Gutkowska, 2003; Matysik-Pejas and Żmuda, 2011; Zabrocki and Liedtke, 2010; Zralek, 2010). The results of comparative studies in terms of the health benefits of organic and conventional foods are not explicit. For many years an unresolved discussions on this topic have been held, which cite different results and conclusions (Rembiałkowska, 2007; Średnicka-Tober et al., 2016). Therefore, the choice of organic food by consumers is determined by their subjective perception of its image and the belief that ecological production system that excludes the use of agricultural chemicals reduces the risk associated with the consumption of food.

There is a gap between Poland in relation to other countries of the European Union when it comes to the size of expenses on organic food, which is related to the overall income situation of the population. These expenses compared to other countries in 2014 remained at a low level and amounted to only EUR 3 per 1 person (Fig. 4). According to research by TNS Poland, 30% of Poles buy organic food, of which 4% (1.5 million) are

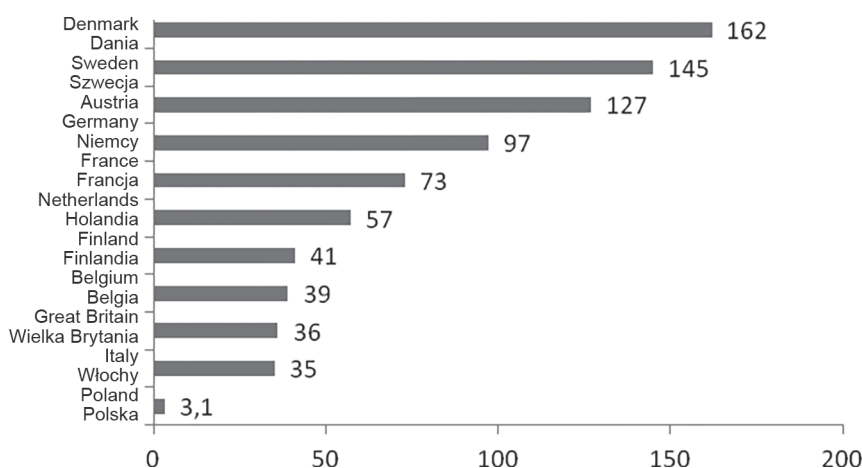


Fig. 4. Poland against the background of the EU countries with the highest spendings on organic food consumption in 2014 (EUR per capita)

Source: The World of Organic Agriculture – Statistics and Emerging Trends 2016.

Rys. 4. Polska na tle krajów UE o najwyższym poziomie wydatków na żywność ekologiczną w 2014 r. (euro na 1 osobę)

Źródło: The World of Organic Agriculture – Statistics and Emerging Trends 2016.

buying it regularly and 26% – occasionally (Raport..., 2012).

The factors that restrict the consumption of organic food in Poland include high prices, limited availability, insufficient product variety and low recognisability of product labelling (Jasiulewicz, 2012; Żakowska-Biemans, 2011). Over the last few decades, the percentage of consumers willing to pay higher prices for organic food has increased. While in the 1990s this percentage remained at approx. 60%, it now reaches almost 80%. At the same time, the declared willingness to pay (WTP) a higher price premium by majority of consumers, i.e. 80%, is in the range of 10–15% (Łuczka-Bakula, 2007). This covers the same WTP threshold as in other countries (Krystallis and Chrysosoidis, 2005). In Poland, it differs very much from the results of the most recent quotations of organic food prices presented in this article. This, in turn, may lead to the recognition of organic food as premium products available to a specific group of consumers with high incomes. The research shows, however, that at a certain wealth level (e.g., in the United States it is the income amounting to USD 35 thousand to 55 thousand per year), the income loses its significance as a factor determining the demand in the organic food market (Lockie et al., 2006; Smith, 2010). According to Lockie (2006), consumers are then willing to bear the additional costs resulting from the higher price of organic food in exchange for the benefits of its health qualities.

CONCLUSIONS

Based on the conducted analysis of the state and changes in the organic food market, the following conclusions can be drawn:

1. The increase in the number of organic farms and area of organic agricultural land in Poland is not correlated with the development of the market for organic products.

2. For many years, this market has been demonstrating the characteristics of the market being in the initial stage of development. This is indicated by the low level of organic food supply due to insufficient production of raw materials and processing.

3. The low level of supply results in a high level of organic food prices, which testify to the achievement by some of the participants in this market of high price premium.

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ZMIANY NA RYNKU ŻYWNOSTI EKOLOGICZNEJ

Streszczenie. W artykule przedstawiono stan oraz zmiany na rynku żywności ekologicznej w Polsce w latach 2004–2014. Badaniem objęto produkcję, przetwórstwo, kanały dystrybucji, poziom cen oraz konsumpcję żywności ekologicznej. Analizy przeprowadzono na podstawie danych pozyskanych z raportów rolnictwa ekologicznego opracowanych przez GIJHARS oraz autorskich notowań cen żywności ekologicznej i konwencjonalnej. Stwierdzono, że dynamicznie rosnąca liczba gospodarstw ekologicznych nie przekłada się na wysoką dynamikę wzrostu podaży żywności ekologicznej. Słabym elementem rynku żywności ekologicznej jest również przetwórstwo, które wykazuje spowolnioną dynamikę wzrostu. Przetwórstwo ekologiczne cechuje się niedopasowaniem przestrzennym polegającym na tym, że w niektórych regionach o znacznej koncentracji gospodarstw ekologicznych jest mniej certyfikowanych przetwórców niż w regionach, gdzie ich liczba jest mniejsza. Niedostosowanie przestrzenne produkcji i przetwórstwa produktów ekologicznych sprawia, że część producentów surowców ekologicznych zmuszona jest sprzedawać je jako produkty konwencjonalne, co skutkuje uzyskiwaniem niższych cen i obniża opłacalność produkcji. Główną zmianą w kanałach dystrybucji żywności ekologicznej jest wzrost udziału sklepów specjalistycznych oraz rosnąca oferta tych produktów w sklepach konwencjonalnych. Badania wykazały, że średnie ceny żywności ekologicznej są w Polsce wysokie. Dlatego niewielki odsetek stanowią konsumenci nabywający żywność ekologiczną regularnie.

Słowa kluczowe: zmiana, produkcja, dystrybucja, ceny, konsumpcja, żywność ekologiczna

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