

dr Teresa Nowogródzka¹

University of Natural Sciences and Humanities in Siedlce

Faculty of Economic and Legal Sciences

The consumer in the Polish organic food market. A Siedlce example

Konsument na rynku żywności ekologicznej w Polsce na przykładzie Siedlec

Abstract: *This paper deals with consumer attitude and behaviour towards organic food. Among other things, it presents a profile of organic food consumers together with an attempt to differentiate them according to their preferences for organic food. The paper also discusses food labelling which makes it possible for the customer to get information about whether a particular item of food is organic or not.*

Keywords: consumer, preferences, organic food, segmenting.

Streszczenie: *W artykule zanalizowano zachowania konsumentów na rynku żywności ekologicznej. Zaprezentowano takie zagadnienia, jak: charakterystyka konsumentów (ze szczególnym uwzględnieniem konsumentów żywności ekologicznej), zwrócono uwagę na konieczność segmentacji konsumentów, z uwzględnieniem ich preferencji odnośnie żywności ekologicznej. Przedstawione zostały także oznaczenia umożliwiające rozpoznanie żywności ekologicznej przez konsumentów.*

Słowa kluczowe: konsument, preferencje, żywność ekologiczna, segmentacja

Introduction

During the last few years Polish consumers have been taking more and more interest in organic food. The term “organic food” refers to products whose processing and production have been done in accordance with European Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products, with subsequent amendments. Organic food is any produce that complies with the principles of growing and processing organic foodstuffs and meeting the above-mentioned requirements of Regulation 834/2007. Certified organic produce can only be produced by organic farms in an uncontaminated environment and with organic methods².

The aim of the article is to evaluate consumers’ awareness of organic food, factors impacting this awareness and customers’ familiarity with organic food labelling. Additionally, the paper studies the preferences of customers for organic foodstuffs, which can help producers to supply the right products to the domestic market. The paper also includes a discussion of the research on

¹ Siedlce University of Natural Sciences and Humanities, e-mail: tnowa@vp.pl

² K. Szoltysek, *Zarys problematyki żywności ekologicznej*, Akademia Ekonomiczna im. Oskara Lange, Wrocław 2004, p. 11-28.

which it is based, together with comparative analysis. Moreover, some publications on organic food are discussed.

In November and December of 2015 a survey was carried out by means of standardised questionnaires and personal interviews. The findings are not representative of the whole population and cannot be generalised because the survey was limited to a particular part of Poland. The survey of consumer behaviour was based on interviews with 200 randomly selected subjects, customers of an organic shop in Siedlce (during the 2 months, the survey was conducted five days a week, on each of those days 10 clients per day), most of them living in Siedlec (70%) and in neighbouring areas (26%).

The awareness of the market of organic produce among consumers, and in particular attitude and behaviour towards it, is important for organic food producers because they can adjust their supply to the needs and expectations of the consumers. Segmenting consumers of organic food on the one hand allows getting to know their common features, and on the other hand their differences. First of all, it needs to be determined whether the Polish market of organic food is well established, like in Germany or other developed countries, or perhaps it is just being formed as a Polish market of organic food.

There are different reasons why organic food is becoming more and more popular; first of all it happens because of growing ecological awareness and concern for the environment and also because of a rising interest in a healthy lifestyle, including the significance of a nourishing diet based on high quality food. Currently informed better than before, consumers are giving up junk fast food and opting for organic food, guided by its high nutritional value and health benefits. Nowadays, environmental education starts in nursery schools, with children learning about nature according to their age. Despite this, knowledge about organic products and their labelling among adult consumers in Poland is not high. Because the uncontrolled use of prefixes like “bio-“ or “eco-“ in the names of many products is misleading, Commission Regulation (EU) No 271/2010 of 24 March 2010 introduced new ways of organic good labelling, which minimised selling of unauthorised products with such phrases on their labels as “natural”, “healthy”, “from an unpolluted part of the country”, “cottage food”, “a product from the green lungs of Poland” or “straight from the village”. Some consumers have not been informed that the label should contain the certificate of compliance, the number and name of certification authorities and, from 1 July 2010, the organic production logo, “the Euro leaf”, for products from European Union countries (Fig. 1). If a label does not contain the above information, the product is not organic. European Union regulations concerning labelling of organic products are compulsory for those who produce, process and deal in certified organic food.



Figure 1. EU organic farming logo

Source: <http://www.minrol.gov.pl/Jakosc-zywnosci/Rolnictwo-ekologiczne>, accessible: 01.04.2016.

Organic food standards and organic product labeling

Upholding standards throughout the food chain, from producers to consumers, allows maintaining high quality foodstuffs. According to the food code of FAO/WHO, organic foodstuffs are those that have been produced in accordance with organic production standards and certified by a duly constituted certification body or authority [Pilarski 2003, p.80]. For a product to be called organic it should meet the basic requirements of IFOAM (International Federation of Organic Agriculture Movements) approved in 1982 and laid down in Basic Standards for Organic Production and Processing. Those standards specify production, storage, processing, labelling and marketing of organic food. The main benefits of organic food are as follows:

- a. it is rich in nutritious and healthy, containing the highest amounts of nutrients,
- b. it is minimally processed, only such processing is allowed as grinding or warming,
- c. it contains a low level of contaminants,
- d. it is produced in an environmentally friendly way, with caring for the environment being a crucial issue, it is not transported long distances with little packaging used,
- e. components are from the domestic market, the number of products is moderate, production is based on small and medium sized businesses,
- f. production is holistic, taking into account the wellbeing of society and balance of natural ecosystems³.

Those benefits are confirmed by the above mentioned certificate of compliance with its number on the label of an organic product; the certificate confirms that production complies with organic methods. It is issued to a specific producer for a certain amount of specific products. A certificate is valid for 12 months and can be renewed annually. It should contain the following information: the name of the certifying body and its address, an identification number issued to the certifying body by the Ministry of Agriculture and Rural Development, the number of a certificate issued to a farmer or producer with their name and address, a producer's statement, the date of issue, the period of validity, and an accreditation sign issued by the Polish Centre for Accreditation (PCA), in accordance with the "Conditions for the use of accreditation symbols of PCA" specified in the DA-02 guidance⁴.

On the packaging of organic food there should be, apart from the above information, the name of the product, a sell-by date, the date of manufacturing and the text "PL- organic farming- control system WE". The producer can put their logo or the logo of a certifying body on the label (fig. 2). The name of the product should clearly indicate its organic origin.

³ U. Sołtysiak (ed.), *Rolnictwo ekologiczne. Od teorii do praktyki*, Stowarzyszenie EKOLAND, Warszawa 1993, p. 206-208.

⁴ J. Tyburski, S. Żakowska-Biemans, *Wprowadzenie do rolnictwa ekologicznego*, SGGW, Warszawa 2007, p. 195.



Figure 2. Logos of bodies certifying organic food production and processing
Source: <https://bip.minrol.gov.pl/Informacje-Branzowe/Produkcja-Roslinna/Rolnictwo-Ekologiczne/Jednostki-Certyfikujace>, accessible: 01.04.2016.

In Poland other kinds of organic product labelling are used. The most common are the following:

- a) the Ekoland symbol, the best known logo in Poland, marking organic food,



Source: <http://www.ekolandpolska.pl>, accessible: 01.04.2016.

- b) a logo of organic farming issued to organic farms,



Source: <https://www.google.pl/search?q=logo+rolnictwa+ekologicznego&espv>, accessible: 01.04.2016.

- c) a logo of certified organic farming.



Source: <https://www.google.pl/search?q=Polskie+Centrum+Badań+i+Certyfikacji+S.A.+logo&espv>, accessible: 01.04.2016.

The system of control and certification in Polish agriculture consists of:

- 1) The Ministry of Agriculture and Rural Development provides certifying bodies with licences to certify organic food and to carry out official controls,
- 2) The Agricultural and Food Quality Inspection (IJHAR-S) oversees certifying bodies and organic production,
- 3) The Trade Inspection cooperates with IJHAR-S in overseeing certifying bodies and organic production,
- 4) The Veterinary Inspection cooperates with IJHAR-S in overseeing certifying bodies and organic production,
- 5) The Main Inspectorate of Plant Health and Seed Inspection cooperates with IJHAR-S in overseeing certifying bodies and organic production,
- 6) Other authorised bodies with accreditation to control organic farming⁵.

The system of control and certification of organic farming in the European Union and in Poland reassures the consumer that organic foodstuffs on the market comply with standards and are free from contamination, like pesticides residues and hormones, and that fertilisers and genetically modified organisms have not been used to produce them.

Segments of consumers according to their organic food preferences

As a result of social and economic changes there have been quantitative and qualitative changes in consumers' shopping habits and preferences in Poland for the past few decades⁶. Those changes have also been caused by such factors as an aging population, an increase in life expectancy, a lower birth rate, an increase in the number of women in the labour market, changes in working time and work organisation, or changes in household structure with the falling number of family members; yet first of all those changes have been triggered by growing health awareness of the public and popular education on healthy eating as well as on a healthy diet⁷.

The knowledge of consumer profiles and in particular their preferences, for example, when it comes to their eating habits, is of enormous importance in organic food production. Because of that it is necessary to subdivide consumers according to different criteria. S. Żakowska-Biemans and K. Gutkowska⁸ give examples of those criteria.

1. The following segments of consumers can be distinguished according to their lifestyles:

- a. hunters-kidnappers – these are childless couples or single people living in cities, trying out a variety of new goods, they look for comfort and buy readymade frozen dishes; they are interested in healthy eating but have limited knowledge on this subject,

⁵ G. Wójcik, *Znaczenie rolnictwa ekologicznego w Polsce w kontekście przemian na lata 2011-2014* [in:] *Wiadomości Zootechniczne* R.L. no 4, 2012, p.108-116.

⁶ G. Świątowy, *Zachowania konsumentów*, PWE, Warszawa 2006, p. 150-168.

⁷ K. Kuśmierczyk, D. Szczepniac-Puchalska, *Zmiany w konsumpcji żywności w Polsce*, „Przemysł Spożywczy” no 12, 2008, p. 7-13.

⁸ S. Żakowska-Biemans, K. Gutkowska, *Rynek żywności ekologicznej w Polsce i w krajach Unii Europejskiej*, SGGW, Warszawa 2003, p. 136-151.

- b. hamsters – low-income consumers, eating traditional local dishes,
 - c. level-headed consumers – mainly elderly people preparing traditional dishes in a quick and easy way,
 - d. happy cooks – at least one person in the family likes to cook and make cakes; they buy basic foodstuffs,
 - e. careful cooks – these are elderly people with a university degree and of high income, often retirees who peruse healthy eating and are often on a diet.
2. There are also the following groups of people with different eating habits:
- a. meat eaters – they like cooking but are against any novelties; they eat meat three times a day,
 - b. health enthusiasts – mainly elderly people, they eat more fruit, vegetables or cereal products than meat, sugar or fat; they do not like buying frozen food and like cooking,
 - c. the well-informed – out of all segments they know most about healthy eating; they prefer nuts, pulses, vegetables, cereal products; they do not like readymade food, with the exception of frozen food; they like novelties in cooking,
 - d. the absent-minded – they prefer readymade food, they eat out and do not like cooking. They do not care about the nutritional value of the food they eat,
 - e. travellers – most often they eat out; they spend a lot of money on food and do not discuss healthy eating,
3. There are the following segments of people interested in organic food:
- a. the eco-activist – middle aged, affluent, married with children, taking care of the health of their family; they buy organic food,
 - b. the eco-dietician – look for healthy ingredients and foods that prevent disease,
 - c. the eco-traditionalist – they buy organic food because of its better taste, usually elderly people from different social and professional groups,
 - d. the eco-innovator – caring for the environment, a member of the middle or upper middle class, usually a young person buying food at supermarkets, usually well-informed, paying attention to a form of food and its taste for different reasons.

I. Wilk [2010, p. 60] points out that consumers of organic food are often not aware of the problems of environmental protection, but are eager to learn new things; it means that producers should focus more on educating consumers, which seems to be the most effective strategy. She pictures a consumer of organic food as “a person who knows that production, distribution, using and disposing of goods brings about certain environmental hazards. Such a person knows about the dangers of such hazards and tries to minimise them”. The above publication also defines an organic consumer as “a person who directs their eating habits in such a way, that the impact of those habits on the environment, or on society is neutral or positive”⁹.

⁹ I. Wilk, *Konsument w koncepcji marketingu ekologicznego*, ZN Uniwersytetu Szczecińskiego nr 609, *Problemy Zarządzania, Finansów i marketingu* no 16, Szczecin 2010, p. 60.

So far no research has been able to provide the full characteristics of organic food consumers, although it can be said that they are present in all parts of the food market. They share some common features that make this group exceptional. First of all they are not persistent and the same person behaves like an organic consumer on one chosen market but not on all of them. They are very often confused and do not know what is and what is not organic on the market. Generally women are more pro-organic and parents are more interested in environmental problems than childless couples; mothers with small children are more likely to pursue organic food and their children, whose awareness about environmental problems is growing because of the influence of their education, often have a decisive voice about shopping choices. There are differences between consumers when it comes to the intensity of their interest in organic products. Because of wide-spread education they are now better informed and more able to single out real organic products and are immune to quasi-organic slogans which are often misleading¹⁰.

Publications on changes in customers' preferences

Together with development and strengthening of the market economy in Poland the position of the customer has also changed and now a customer has become "the king of the market" and its central element¹¹.

Present day consumers are becoming more and more fussy and want food on the market to be diversified, with high quality and of high nutritional value, tempting all the senses. It should be produced in a healthy way but because of the fast pace of life and busy lifestyle, they want it to be easily and quickly cooked, requiring as little effort as possible.

Consumers' income and prices of organic products also affect their choices. The source of information is not of minor importance either. Such information can originate from personal contacts, informal conversion with friends and relatives, but also from formal sources, mostly from labels attached by the producer to the packaging, but also from the consumer's own experience, like looking for products in shops, food tasting in supermarkets or marketing sources like information in advertisements, trade fairs, personal selling or from any forms of product publicity¹².

According to M. Jeżewska-Żychowicz the changes observed in eating habits are consequences of the growing awareness about health, healthy eating, and a balanced diet. Because of all that new types of food have been made available in Polish shops; changes in the food market are very fast and because of that producers are forced to present a wide choice of products.¹³

¹⁰ M. Charter, *Greener marketing*, Greenleaf, London 1992, p. 7-8.

¹¹ R. Zabrocki, *Znaczenie badań konsumenckich w kształtowaniu jakości i konkurencyjności usług żywnościowych*, [in:] Juchniewicz M. (ed.), *Zarządzanie przedsiębiorstwem w warunkach konkurencji. Determinanty konkurencyjności przedsiębiorstw*, part II, Wydawnictwo UWM, Olsztyn 2006, p. 359-360.

¹² M. Zegan, M. Jeznach, *Rola informacji i edukacji w rozwoju rynku żywności funkcjonalnej*, [in:] Gutkowska K., Narojek L. (red.), *Konsument żywności i jego zachowania w warunkach polskiego członkostwa w Unii Europejskiej*, SGGW, Warszawa 2005, p. 444-447.

¹³ M. Jeżewska-Żychowicz, *Wpływ innowacyjności konsumentów na ich zachowania na rynku nowej żywności*, „Handel Wewnętrzny” no 2, 2008, p. 35-38.

Research done by M. Grzybowska-Brzezińska proves that present day consumers pay more attention to their diet, choosing low-fat foods but rich in minerals and vitamins balanced in a healthy way. It has been noticed that the higher standard of living and better education contribute to understanding the importance of a healthy diet. Corner shops, supermarkets and single-line shops are the most popular outlets where organic food is bought. Comparing sources of information about organic food, the most reliable source was personal experience but also, to a lesser extent, the opinion of friends¹⁴.

The survey of customers' preferences

The results of the research on which this paper is based confirm the findings of many authors presented above. Most of the subjects were women (68%) because they mostly do the shopping, caring about the health of their family. Most of the respondents were between 45 and 50 years old (51%), with far fewer of them in the age range of 25-34 (18%) and 35-44 (14%). Most respondents had university education (56%) and secondary education (34%), with the average monthly income higher than 1500 zloty (54%) or about 1000 zloty (32%); in most cases well educated people were more conscious as consumers, had a higher income and bought organic food more often.

The most common reasons (Fig. 3) why respondents bought organic food were: the fact that it did not contain harmful substances (28%), because of its nutritional value (24%), because it is healthy (19%), because of its taste (16%), and because it is environmentally friendly (12%).

Figure 4 presents organic items commonly bought by the respondents. They were: vegetables, fruit and mushrooms (22%), dairy products and eggs (20%), meat and fish (14%) juices and beverages, food for children, bread-stuffs and pastry (each of them 12%).

When asked whether they were familiar with labelling of organic products, 70% of the respondents said "yes". Nearly half of them (47%) read the logos and the labels of the products they bought. A majority of respondents (80%) could distinguish between organic and non-organic products. Without doubt it can be said that public awareness of such matters is growing but the fact that the respondents were all customers of the same organic food shop must have affected the results of the questionnaire.

To answer a question about what decides about the choice of organic food (Fig. 5), respondents gave the reasons in the following order: ingredients (26%), price (18%), producer (16%), but also packaging and country of origin (each of them 13%).

¹⁴ M. Grzybowska-Brzezińska, *Uwarunkowania zmian zachowań konsumentów na rynku żywności*, ZN Uniwersytetu Szczecińskiego no 609, Problemy Zarządzania, Finansów i Marketingu no 16, Szczecin 2010, p. 312-314.

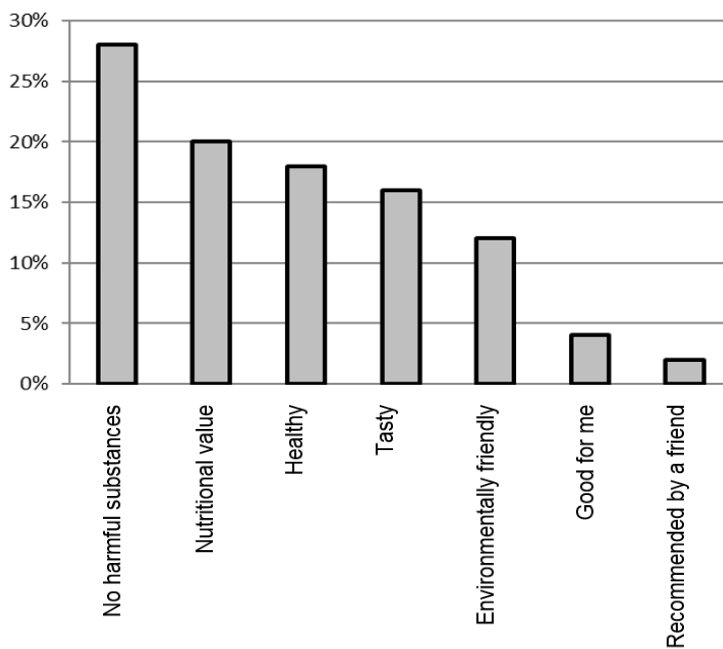


Figure 3. Reasons for buying organic food
Source: own elaboration based on own survey data

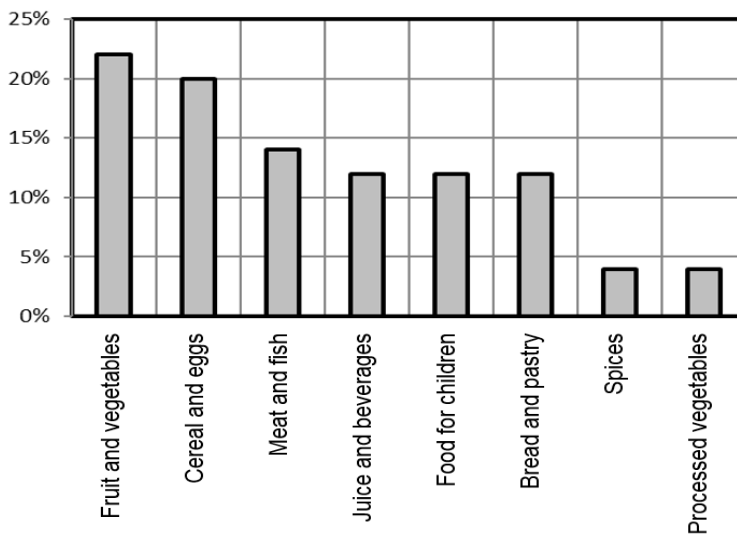


Figure 4. The most popular organic products
Source: own elaboration based on own survey data

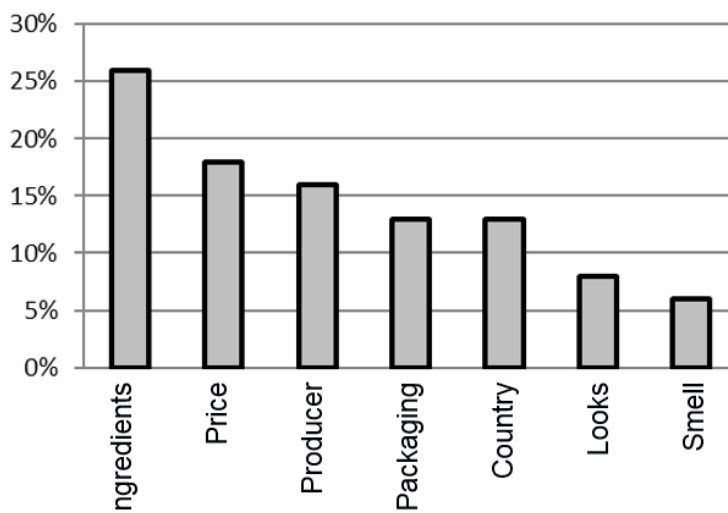


Figure 5. The order of the factors influencing the choice of organic food
Source: own elaboration based on own survey data

As the main barriers in purchasing organic food the respondents indicated: its high price (40%), too little publicity and the fact that consumers are used to conventional food (each 18%), poor assortment (10%) and poor availability (6%). Only a few respondents pointed to unfamiliarity with labelling and distrust (in each case 8%).

The respondent bought organic food at speciality stores most often (52%), but also in street markets (20%). The fewest of them said that they bought it straight from farmers (4%) and online (6%). The results may indicate that consumers are reluctant to buy organic food from sellers they are not familiar with. As a source of information about organic food respondents named: speciality shops (45%), stands with organic food (22%), opinion of friends (17%) and the family (12%). Not many respondents indicated such sources of information as the media or the Internet (in each case 2%).

Household food expenditure per person considerably varied, with the most frequent sum of 150 zloty per month (25%). A smaller group of respondents (21%) spent 450 zloty on food, 4% of them spent 500 zloty, and 10% of respondents said that they spent more than 650 zloty per month.

According to a large group of respondents (46%) presentations and tastings of products are not common enough as they are the most useful marketing tools for organic food. Moreover, outlets selling organic food should advertise more aggressively since many consumers are also potential buyers but they often do not know where to buy organic products.

Conclusions

Analysing the effects of the survey among customers of an organic food shop in Siedlce it can be said that there are some similarities between results obtained in this experiment and those presented in many publications on this matter. The majority of the respondents were women aged 45-50 because women do the shopping in most cases. Most subjects were people with a university degree with a net monthly income of more than 1500 zloty per person; both education and income are important factors affecting eating preferences of consumers. This survey and similar ones presented in publications make it possible to draw some conclusions; if society is better educated and the income is higher, then the public awareness towards healthy eating is also rising. This awareness may have a positive impact on environmentally friendly thinking and activity of consumers.

The fact that respondents chose organic food was created by such factors as: the fact that it is free from harmful substances, its nutritional value and the pursuit for healthy eating in the family. Respondents most often chose products important for the everyday diet: vegetable, fruit, mushrooms, dairy products, eggs, meat, fish, juice and beverages, products for children, bread and pastry. What decided about the purchase were ingredients of the food, its price, its producer, its labelling and the country of origin.

Analysing the results of the survey it can be said that consumers are more and more aware of the choice of foodstuffs, they know where to find information about it, they buy it mainly at speciality shops and at stands with organic food but they also rely on the opinion of their friends and family. Studies carried out in France and Germany show that shops with organic food are highly regarded.¹⁵ Respondents have their own favourite outlets with organic food which are mainly speciality shops and street markets. Consumers are reluctant to take advantage of new shops or to get information on the Internet. Most respondents know what the labeling of organic food looks like and can tell the difference between organic and conventional products.

Members of the surveyed group would like to buy organic food more often but undoubtedly the biggest barrier is the high price, inadequate assortment and poor availability. The respondents said that there should be more information about outlets where organic food could be bought and more presentation and tasting of organic food to win over consumers. They suggest that organic food should be available in a bigger number of shops and the stands should be clearly visible.

It is worth considering what way of selling organic food would make it more available. Experience of other European countries shows that availability of this food in supermarkets and discount stores makes it possible to sell more and to broaden the choice¹⁶. The encouraging fact is that it is a safe area of

¹⁵ L. Sirieix, B. Schaer, *Buying organic food in France – Habits and Trust*, IFMA Congress, "Working Paper" no 1, 2005, p.2.

¹⁶ H. Torjusen, L. Sangstad, K. O'Doherty Jansen I in., *European Consumers' Conceptions of Organic Food, A Review of Available Research*, SIFO, Professional report no 4, 2004, p. 40.

business, because according to the Polish Economic Club, over 70% of shops selling organic food launched in 2004 are still in business¹⁷.

Bibliography

- Charter M., *Greener marketing*, Greenleaf, London 1992.
- Grzybowska-Brzezińska M., *Uwarunkowania zmian zachowań konsumentów na rynku żywności*, ZN Uniwersytetu Szczecińskiego no 609, Problemy Zarządzania, Finansów i Marketingu no 16, Szczecin 2010.
- Jeżewska-Żychowicz M., *Wpływ innowacyjności konsumentów na ich zachowania na rynku nowej żywności*, „Handel Wewnętrzny” no 2/2008.
- Kuśmierczyk K., Szczepniak-Puchalska D., *Zmiany w konsumpcji żywności w Polsce*, „Przemysł Spożywczy” 2008, no 12/2008.
- Mazurek-Łopacińska K., *Polacy wobec nowych tendencji w konsumpcji*, IRWiK, Warszawa 2003.
- Nagalewska-Radłowska Ż., Kieleśńska A., *Nowe produkty mięsne na rynku (opracowywanie i komercjalizacja) a opinie i zachowania konsumentów*, [w:] Pilarski S. (ed.), *Decyzje konsumentów i ich determinanty*, UWM, Olsztyn 2003.
- Pilarski S., Grzybowska M., Brzeziński M., *Rynek żywności ekologicznej*, Wyższa Szkoła Agrobiznesu, Łomża 2003.
- Sawicka J., *Certyfikowana żywność opiera się kryzysowi*, „Supermarket Polska”, no 11/2009.
- Sirieix L., Schaer B. (2005), *Buying organic food in France – Habits and Trust*, IFMA Congress, “Working Paper” no 1/2005.
- Sołtysiak U. (ed.), *Rolnictwo ekologiczne. Od teorii do praktyki*, Stowarzyszenie EKOLAND, Warszawa 1993.
- Światowy G., *Zachowania konsumentów*, PWE, Warszawa 2006.
- Szołtysek K. (2004), *Zarys problematyki żywności ekologicznej*, Akademia Ekonomiczna im. Oskara Lange, Wrocław 2004.
- Torjusen H., Sangstad L., O’Doherty Jansen K. I in. (2004), *European Consumers’ Conceptions of Organic Food, A Review of Available Research*, SIFO, Professional report no 4.
- Tyburski J., Żakowska-Biemans S. (2007), *Wprowadzenie do rolnictwa ekologicznego*, SGGW, Warszawa 2007.
- Wilk I., *Konsument w koncepcji marketingu ekologicznego*, ZN Uniwersytetu Szczecińskiego no 609, Problemy Zarządzania, Finansów i marketingu no 16, Szczecin 2010.
- Wójcik G. (2012), *Znaczenie rolnictwa ekologicznego w Polsce w kontekście przemian na lata 2011-2014* [in:] *Wiadomości Zootechniczne R.L.*, no 4/2012.
- www.minrol.gov.pl/Jakosc-zywnosci/Rolnictwo-ekologiczne/Kontrola-i-certyfikacja, access: 31.03.2016
- Zabrocki R., *Znaczenie badań konsumenckich w kształtowaniu jakości i konkurencyjności usług żywieniowych*, [in:] Juchniewicz M. (ed.), *Zarządza-*

¹⁷J. Sawicka, *Certyfikowana żywność opiera się kryzysowi*, „Supermarket Polska”, no 11, 2009, p. 39.

- nie przedsiębiorstwem w warunkach konkurencji. Determinanty konkurencyjności przedsiębiorstw, cz. II, Wydawnictwo UWM, Olsztyn 2006.*
- Zegan M., Jeznach M., *Rola informacji i edukacji w rozwoju rynku żywności funkcjonalnej*, [in:] Gutkowska K., Narojek L. (ed.), *Konsument żywności i jego zachowania w warunkach polskiego członkostwa w Unii Europejskiej*, SGGW, Warszawa 2005.
- Żakowska-Biemans S., Gutkowska K., *Rynek żywności ekologicznej w Polsce i w krajach Unii Europejskiej*, SGGW, Warszawa 2003.

