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FOOD QUALITY AND ITS CONDITIONINGS

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Abstract. Food quality is the main issue of the article. Food quality concept is widely presented in the article. The most important in food quality management is to ensure food safety. That is why the author pays particular attention to food safety. The reader can find in the paper up-to-date examples of food safety management from real life. The author presents the outcome of the analysis of crucial food quality conditionings, like legal rules, agribusiness resources and methods of production. The author emphasizes the role of organic agriculture method in improving food quality and safety.

Key words: food quality and safety, food quality determinants, food law, production capability of agribusiness, organic farming

INTRODUCTION

In the time of constant changes and uncertainty, coming into being and functioning of various enterprises on the food and agricultural market depend a lot on quality management. Nowadays, fine quality of food products and the process of production are the main requirements of the customers. They are aware of the crisis in the food chain on the global market, and more and more often aspire to eat safe food that is not dangerous for their health and life. The customers want to be satisfied with everyday food shopping and they have a right to this. More and more consumers expect high and stable quality of food products, often confirmed with a certificate and they are willing to pay for fine quality [Kurek 2007]. On the other hand, they want to have an easy access to the groceries that they choose and to be able to afford them. The organic food market in Poland is not developed enough to meet the consumers' requirements related to physical and economic accessibility of organic products, although it should satisfy them with food quality. The food and agricultural world market (especially the organic market) is developing rapidly, so that the outcome of the research within the scope of food quality is up-to-date for a very short time. However, it is worth popularizing this outcome because it stimulates

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the producers to improve food quality continuously. Food quality determinants vary a lot and the consumers' assessment of food quality is very subjective. The author of the article tries to identify and analyze the key food quality conditionings, such as: legal rules, agribusiness resources and methods of production [Kowalska 2010].

FOOD QUALITY CONCEPT

The most crucial dimension of food quality management is food safety assurance. According to the Polish food safety legislation of August 25, 2006, food safety is defined as generality of requirements which have to be met, regarding[1]: food additives and artificial flavors, contaminants, pesticides residues, food irradiation and organoleptic features, and activities that have to be taken at all the stages of food production and distribution processes in order to assure human health and life. Food safety risks may come from physical, chemical or microbiological contaminants. For the first time, the consumers' right to safe food was put into words in the resolution of the United Nations of 1985.

The key issue of food quality and safety assurance is to understand and admit that the problem refers to all participants of the food and agricultural chain, from the fodder producers and farmers, to consumers and this is confirmed in 'the constitution of the EU food law' – the Regulation (EC) No. 178/2002[2]. The authorities require establishing traceability at all the stages of production, processing and distribution of food, in order to enable food and feed business operators to recognize the source of food hazards. It is important to understand 'where and how' in the food chain particular quality features are exposed to changes. The most critical points in animal production are: the choice of the type of raising and feeding, the protection of animal health and welfare, and the way of transport and slaughter. Both the method of plant cultivation and harvesting are crucial for plant products quality. Physical properties of food are also determined by the ways of storage, transport, sale and supply to a final consumer. The choice of food processing technology and packaging method also influence food quality [Luning, Marcelis, Jongen 2005]. When a final consumer has done his grocery shopping, he or she becomes responsible for quality and safety of his or her food. One should care about the conditions of transport and storage, and the proper preparation process.

It is worth mentioning Taguchi's quality philosophy. One of the key elements of his philosophy is the loss function, used to measure financial loss of society, resulting from poor quality. Minimizing loss means maximizing quality. When it comes to food quality, the consumers (health), the producers (complaints, remaking, utilization) and the whole economy (soil and groundwater contamination, market slump) might suffer a loss [Wiśniewska 2005].

[1] The Act on the safety of food and nutrition as of August 25, 2006 (Journal of Laws of the Republic of Poland, 2006, No. 171, item 1225).

[2] The Regulation (EC) No. 178/2002 of the European Parliament and of the Council of the European Union of January 28, 2002, laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (*Official Journal L 031 , 01/02/2002 P. 0001 – 0024*).

The consumer's attitude towards food products is full of criticism and emotions. Food quality significantly influences quality of human life. Therefore, quality perceived by the consumers really matters. It gets a consumer to make a decision about purchasing food products. Finally, the decision is also conditioned on other determinants: economic, educational, environmental, cultural, social, esthetic and nutritional. Food quality definitions suggested by C. Szczucki and S. Zalewski contain main determinants of a consumer's perception of food quality. Among them we can find [Szczucki 1970; S. Zalewski 1992]: sanitary conditions, which decide about safety of food; sensory attractiveness, which decides about organoleptic quality; availability and convenience. Quality improvement is limited by availability of resources and raw materials, technologies and costs of production. M. Wiśniewska has defined food quality as 'a collection of a food product features and their determinants that apply to all stages of primary production, processing and distribution of food and a consumer's table, and that fulfill various guidelines and directives in order to meet broadly defined requirements of the consumers' [Wiśniewska 2005]. One of the food quality concepts sets up the claim that we cannot talk about food products quality, but only about physical features of food products that are perceived as qualitative. Among these features it is possible to distinguish internal features (sanitary conditions and safety, sensory attributes, expiry date, reliability and functionality) and external features (methods of production, environmental and ecological aspects, innovativeness, exclusivity, brand as quality assurance, way of display, costs of purchasing, availability and supplements) [Wiśniewska 2005; Luning, Marcelis, Jongen 2005].

The consumers' preferences change rapidly, thus food quality may be treated as 'a moving target' which has to be found. The consumers change their mind about food quality very often, and their preferences constantly evolve. Nowadays, the consumers more and more often question conventional, intensive methods of production and the use of GMO, and look for the food coming from extensive systems of production, such as organic food. They are aware of the fact that when they eat organic food, they contribute to environmental protection, farm animals health and welfare, and that they care about their families' and their own health. This trend is evident in continuous growth of global organic market [Smoluk-Sikorska 2010].

REAL-LIFE EXAMPLES OF FOOD QUALITY AND SAFETY MANAGEMENT

It is important to detect any food adulteration effectively to ensure consumers' safety. Even though authenticity of food products is regulated by legal regulations (consumer cannot be misled), adulterated food products exist in all the branches of food industry. Producers add special ingredients to food products in order to lower nutrition value, manipulate with technology to make food products look decently, conceal the method of production (especially in case of GMO use) or label the food products incorrectly, and so on. Even though the detection of food adulteration is often complicated, labor-consuming and expensive, fast growth and development of analytical methods let the scientists to detect them [Przetaczek-Rożnowska, Rosiak 2011]. In 19th century, adulteration of food products was very common, because of the lack of food. Today, the main reason is to earn easy money [Jałowiec, Płaczek 2011].

There is another mechanism in the agri-food chain introduced to ensure food quality and safety: novel food and their ingredients have to get a permission of the European Commission in order to be placed on the market[3]. Currently, the procedures of getting such permission are becoming shorter and easier. Before making the decision, the European Commission has to make sure that novel food is safe for human beings, animals and the whole environment [Bogusz-Kaliś 2011].

There are some restrictions relating to nutrition and health claims made on foods, introduced by the Regulation (EC) No. 1924/2006[4]. The list of permitted health claims is still open because of quite a big number of applications. The European Commission is still working on it. The list is going to be closed and published by the beginning of 2012, and since then any claim that is not on the list will be outlawed. The requirements of the EU concerning nutrition and health claims will have to be met while packaging, advertising and displaying any food product [Wrześniewska-Wal 2011].

For the past twenty years, health quality of food made in Poland has improved visibly. It is proved by inspections on commercial food quality carried out by the Polish Government bodies every year. In 1990, 20–25% of all the food products made in Poland was withdrawn from the market, comparing to 2009 when a share of defective food came only to 1–3%. The most dynamic positive quality changes took place in Polish meet production and processing, thanks to big investments made in order to come up to the new European standards. In 2010, strictures related, above all, to beer, fish products, cold meats, juices, nectars and butter. The problem with commercial food quality is usually found in supermarkets, where deliverers are forced to lower prices so much, that they have to lower the quality of food [Jałowiec, Płaczek 2011].

Nowadays, a consumer might be confused on the food market. Quite often, one is not aware of safety of the food offered and does not know many regulations of the food law [Brewer, Rojas 2008]. It is necessary to know the consumers' expectations to educate them effectively. Eurobarometr research conducted among the European consumers in 2010 indicated the main determinants of food safety. About 70% of the consumers are afraid of pesticides residues in plant products (especially in Greece, Lithuania, Italy, Luxemburg, and in Poland), antibiotics and hormones residues in meet products (especially in Cyprus and in the Netherlands), and contaminants coming from mercury and dioxins (especially in France). The Polish consumers are pretty afraid of food irradiation, GMO use, bone meals and antibiotics in animal feed, and of food additives. Organic food is most safe for numerous consumers. A Polish consumer turns out to be more careful about food safety issues than an average European consumer [Wierzejska 2011]. The outcome of Eurobarometr can be useful while modifying the European food law, setting financial support for participants of the food chain, as well as producing and selling foods.

[3] The Regulation (EC) No. 258/97 of the European Parliament and of the Council of the European Union of January 27, 1997, concerning novel foods and novel food ingredients (Official Journal of the European Union L 43, 14/02/1997, p. 1).

[4] The Regulation (EC) No. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods (Official Journal of the European Union L12, 18/01/2001 P.0003-0018).

FOOD LAW FOR FOOD QUALITY AND SAFETY

In the very beginning, the European Union food law has been concentrated on making the EU internal food trade easier and neglected the consumers' protection. Such an approach has evolved, and now, food products are treated as means of providing for the human needs of healthcare and good life. According to the fundamental for the EU food law document – the Regulation (EC) No. 178/2002, the primary objective of this law is to protect life and health of the consumers. Other objectives of the Regulation are: the protection of the consumers' economic interests, fair trade of safe and high-quality products within the internal market and with third countries, environmental protection and animal welfare. The Regulation has been designed in the way that gives an opportunity to develop the food law constantly [Korzycka-Iwanow 2007].

It turned out that the interpretation of the food law for the European Union is not easy and the Commission contributed to publish a practical guide to the food law. In the guidebook one can find a record about the integrated approach of food safety policy: 'From the Farm to the Fork'. Primary production and the production of animal feed have to come up to special sanitary and phytosanitary standards[5]. Food processors should attain a higher hygiene standard and standard of food safety than farmers. The obligatory HACCP system is an instrument to get it. The food and animal feed business operators have a civil and criminal liability for acting outside the food law. Official control bodies should co-operate with food business operators[6]. The lawful means of controlling food safety are set up on the basis of risk assessment. While food products are labeled, displayed or advertised, a relevant information necessary to protect the consumers' life and health has to be given. The consumers cannot be misled. The precautionary principle is invoked in some specific circumstances in order to ensure the high level of life and health protection [Korzycka-Iwanow 2007].

A Polish consumer's right to protect his or her life and health is invoked in the Constitution of the Republic of Poland of 1997[7]. Public authorities are obligated to work against epidemics and prevent from the negative effects of environmental deterioration. They are

[5] The Regulation (EC) No. 852/2004 of the European Parliament and of the Council of the European Union of April 29, 2004, on the hygiene of foodstuffs (Official Journal L 139 , 30/04/2004 P. 0001 – 0054); the Regulation (EC) No. 853/2004 of the European Parliament and of the Council of the European Union of April 29, 2004, laying down specific hygiene rules for food of animal origin (Official Journal L 139 , 30/04/2004 P. 0055 – 0205).

[6] The Regulation (EC) No. 882/2004 of the European Parliament and of the Council of the European Union of April 29, 2004, on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules (Official Journal L 165, 30/04/2004 P. 0001-0141); the Regulation (EC) No. 854/2004 of the European Parliament and of the Council of the European Union of April 29, 2004, laying down specific rules for the organization of official controls on products of animal origin intended for human consumption (Official Journal of the European Union L 155, 30/04/2004 P. 0206-0321).

[7] The Constitution of the Republic of Poland of April 2, 1997 (Journal of Laws of the Republic of Poland as of July 16, 1997, No. 78, item 483; correction: Journal of Laws of the Republic of Poland 2002, No. 28, item 319; change: Journal of Laws of the Republic of Poland 2006, No. 200, item 1471).

responsible for protecting the consumers, users and rentiers health, privacy and safety, and have to ensure fair terms of trade. The Polish law on food safety and nutrition of August 25, 2006 is coherent with the Regulation (EC) No. 178/2002. The Polish act sets the rules for health requirements and labeling of food, hygienic requirements and official controls in cases that are not regulated by the EU law.

PRODUCTION CAPABILITY OF POLISH AGRIBUSINESS

Natural resources and conditionings, the condition of natural environment, the labor market, the demographic characteristics of the population, a level of education, an attitude of rural inhabitants, the condition of social and technical infrastructure – at some point all of them determine food quality and safety. In 2009 rural areas constituted 93.2% of the total area of Poland and were inhabited by 39% of the total population [Dmochowska 2011]. Thus, they are of huge importance from the economic, social and environmental points of view. There are primary commodities produced in rural areas, and their quality and safety determine quality and safety of finished food products.

Natural conditions and soil conditions in Poland are worse than the average EU soil conditions, and together with adverse climatic conditions (lower temperatures, shorter vegetation periods and lower rainfall) they cause problems with cultivation of a set of plants similar to the one cultivated by the EU farmers, as well as with getting comparable yields, especially from demanding species, such as wheat or vegetables. Mountain areas and less-favored areas take up almost half of the farmland. So unfavorable natural conditions require greater engagement, knowledge and capital from Polish farmers in order to equal a EU's average farmer. The conditions slow down Polish agriculture and rural areas development. On the other hand, a really high biodiversity of rural areas provides a basis for improving quality and safety of agri-food. Natural resources of Polish agriculture have never been exploited as intensively as they were exploited in most of the EU member countries. The use of artificial fertilizers and plant protection products is moderate, comparing to the EU standards. It ensures high quality of production capability [Program… 2007].

In comparison to other European countries, the rural population of Poland is still young. Young people are open-minded, innovative, more willing to study and take a risk. However, demographic predictions show that Polish rural population is getting older and smaller, especially in peripheries. Since 2000, people have rather been migrating from cities and towns to countryside, but close to the cities and towns or main routes. The suburbanization process usually concerns educated and well-off persons, who often move their business headquarters to such areas. It means the development of housing, the changes in the traditional landscape and architecture, a fast development of trade, services and the local nonagricultural labor market, the improvement of the conditions of technical and social facilities, and an increase of own revenues of gminas. After the accession of Poland to the European Union, the Polish people more often emigrate in order to earn money for living. It is caused, inter alia, by persistent low income of farmers and growing occupation mobility of rural inhabitants. One never knows if they emigrate temporarily or permanently. However, people who come back to rural areas bring new knowledge,

experience and money for investments. On the other hand, young, well-qualified and smart people usually emigrate, which lowers human capital of rural areas [Program… 2007, Dmochowska 2011].

The situation on the labor market in Polish rural areas has been tough for many years. Registered unemployment rate reached 8% in 2009 [Dmochowska 2011]. Poland has also quite a big number of the unemployed who are not registered. The labor market in rural areas varies among regions; the biggest share of the employed in agricultural sector characterizes South-Eastern regions. There is a trend to reduce the number of the employed in Polish agricultural sector, however, the percentage of them is still twice bigger than the average in the European Union. It is estimated that even if 14% of the employed in Polish agricultural sector would change the occupation, the agricultural sector would still supply with enough food [Zalewa 2008].

In recent years, there has been an increase in the general level of education of the persons managing agricultural holdings in Poland. However, the education level of the rural population is still lower than the education level of the urban population. But this situation is systematically improving. Young rural residents choose vocational schools far more often than their urban counterparts, which is motivated mainly by economic reasons. Moreover, the learning conditions in rural areas are definitely worse than in cities. Low level of education is often an obstacle to initiating activity outside agriculture, including self-employment.

In 2009 there were about 2.5 mln agricultural holdings in Poland (but there is a tendency to reduce this number). The smallest farms (1–5 ha) constituted about 40% of all the farms in Poland. The average size of an agricultural holding in 2009 amounted to 10.15 ha and was twice smaller than the average agricultural holding in the European Union[8]. A consequence of great fragmentation of agriculture is usually a small economic capability of agricultural holdings (on average, three times smaller than in the EU) [Orłowska 2010]. Such small farms restrain agricultural and rural development in Poland. Another problem is the fact that a typical Polish agricultural holding is divided in many lots, sometimes located far away from the head place of production. Such a land structure and an unstable economic situation in agricultural sector hamper specialization of farms (45% of the total number of farms in Poland have no specialization) [Program… 2007, Dmochowska 2011]. Specialization of production should contribute to lowering cost of production, establishing connections with trade partners and improving quality of food.

The agricultural holdings in Poland show considerable needs for investments, which are mainly connected with quantity and quality of technical production infrastructure. The indices of equipment in Poland differ considerably from those in the EU-15, if referred to the unit area of farmland or crop (e.g. number of tractors or combine-harvesters per unit area). Moreover, machines operating in agricultural sector are largely worn and old. Poorly developed technical infrastructure is one of the most serious barriers to rural development, influencing both the standard of living and investment capacity. The main problems include the absence of a sufficient communal sewage system, wastewater treatment plants, telephone networks and the Internet, and poor condition of energy infrastructure. Social infrastructure, which aims to satisfy social, educational, cultural and safety

[8] www.epp.eurostat.ec.europa.eu, as of September 15, 2011.

needs in rural areas, is underinvested and not adjusted to the existing needs (health care, cultural and tourist facilities, schools) [Program… 2007].

We can assume that the Polish agricultural sector has a great potential to develop systems of production giving high quality food, especially organic food. Agri-environmental, social and economic conditionings of the Polish agricultural sector are really favorable for the development of organic agriculture [Zalewa 2008]. These conditionings vary among the regions. The South-Eastern part of Poland is the least transformed by human beings and best-preserved biodiversity is present there. The employment in agricultural sector and the unemployment rate are really high in this region so the labor costs should be lower. It might be important for the work-intensive organic agriculture.

ORGANIC PRODUCTION PRINCIPLES AND THE QUALITY OF ORGANIC FOOD

There are ample examples that the methods used for food production do make a difference for food composition or other quality aspects, and that these differences are large enough to make a difference to the consumers' health [Brandt, Molgaard 2006]. Organic food production is relatively well defined and it makes a main difference between organic and conventional production systems, that may affect food quality. Organic food quality is a result of principles set by the International Federation of Organic Agriculture Movements (IFOAM), regulations of the EU law and requirements of national and international organizations and institutions, e.g. certifiers. The principles of organic agriculture formulated in 2005 focus on quality. According to the principle of health, organic agriculture is intended to produce high quality, nutritious food that contributes to preventive health care and well-being. Thus, organic agriculture should avoid the use of fertilizers, pesticides, animal drugs and food additives that may have adverse health effects. According to the principle of ecology, organic farming should maintain and improve environmental quality and conserve resources. According to the principle of fairness, organic agriculture should provide everyone involved with a good quality of life, and contribute to food sovereignty and reduction of poverty. It aims to produce a sufficient supply of good quality food and other products[9]. In the strict sense, the quality of organic food is a process quality rather than a product quality.

According to the Council Regulation (EC) No. 834/2007, organic production is an overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards, and a production method, in line with preferences of certain consumers, for products produced with the use of natural substances and processes[10]. According to the Regulation, the general objectives of organic production are: to establish a sustainable management system for agriculture, to aim at producing

[9] www.ifoam.org, as of October 6, 2011.

[10] The Regulation (EC) No. 834/2007 of 28 June 2007 on organic production and labeling of organic products and repealing the Regulation (EEC) No. 2092/91 (Official Journal of the European Union L 189, 20/07/2007 P. 0001-0023).

products of high quality, to aim at producing a wide variety of food and other agricultural products that respond to the consumers' demand for the goods produced by the use of processes that do not harm the environment, human health, plant health, or animal health and welfare.

The farmers should definitely minimize external inputs. Where external inputs are necessary, these shall be limited to: inputs from organic production, natural or naturally-derived substances and low solubility mineral fertilizers. The use of chemically synthesized inputs is limited to the cases when: the appropriate management practices do not exist, the natural and mineral external inputs are not available on the market or the use of them contributes to unacceptable environmental impacts. Polish organic farmers are allowed to use only those fertilizers and plant protection products which are placed on special lists publicized by the Institute of Soil Science and Plant Cultivation (IUNG) in Puławy, and the Institute of Plant Protection in Poznań. The use of GMOs is prohibited in this system.

Organic food quality is also influenced by abiotic factors (the quality of the environment, air, water, soil and climate) and biotic factors (races, species, plant varieties, diseases, vermin). The soil and water cannot be contaminated because the certifier can question organic management in such a holding. Plant varieties chosen in organic farms should be disease- and vermin-resistant, and competitive towards weeds. All the organic fruits of earth should be shock- and decay-proof.

The general Community framework on organic production rules (the Regulation No. 834/2007) is established with regard to wild plants collection and the production of processed food. Organic processed products should be produced by the use of processing methods, which guarantee that the organic integrity and vital qualities of the product are maintained through all stages of the production chain. Processed food should be labeled as organic only when all, or almost all, the ingredients of agricultural origin are organic. The substances and processing methods that might be misleading, regarding the true nature of the products, are excluded. Organic food should be processed with care, preferably with the use of biological, mechanical and physical methods. Synthetic colorants, artificial flavoring agents and antimicrobial additives are banned.

Any farmer or food processor can sell his or her products as organic after he has got a certificate. The certificate guarantees that organic food has been produced in a compliance with the principles, and that the production process was under control. The certificate is valid one year and is usually extended for a next year, after a positive outcome of an audit[11]. The efficiency of certification and control systems influences the quality of organic food. In 2004 in Poland, this system was really efficient and 'leak proof' (no pesticides residues in checked samples). Unfortunately, during the next three years the system lost its efficiency. It might have been caused by the increasing volumes of chemical means of production used in conventional agriculture (in the neighborhood), and by dishonesty of organic farmers. However, the average level of pesticides residues in Polish organic farming is much lower than in other countries, e.g. the USA or Belgium [Rembiałkowska 2008]. That is Poland's competitive advantage on the international agri-food market.

[11] The Act on the organic agriculture as of June 25, 2009 (Journal of Law of the Republic of Poland, 2009, No. 116, item 975).

The reviews of earlier studies on organic food and health concluded that there is no evidence for any direct health benefits, nor for risks definitely associated with consumption of organic food. However, regarding food composition, some significant differences exist in the average levels of several nutrients, contaminants or pathogens. Most of these differences appear to be beneficial on the part of organic food, and organic food tends to contain substantially lower levels of pesticide residues and a slightly higher vitamin C content. While organic production methods may superficially appear to comprise more risks for pathogen transmission from farm animals to humans than conventional methods, the evidence indicates the opposite trends. A more extensive use of grass and other roughage in organic animal production improves the ability of animals to eliminate zoonotic pathogens. Moreover, pathogens from organic animals are more susceptible to antibiotics and are thus easier to eliminate from patients. Some surveys concluded also that the microbiological risk coming from organic food is smaller or similar to the corresponding one, coming from conventional food, even though pathogens are able to survive for extended periods in stored manure [Brandt, Molgaard 2006]. Above all, most consumers choose organic products because they are convinced that organic food has beneficial effects on their health, and that it tastes better [Koreleska 2009, Ahmad, Juhdi 2010].

CONCLUSIONS

Food quality and safety assurance is a weighty problem from the economic, social and ethic points of view. Unsafe food causes many acute and life-long diseases, ranging from diarrheal diseases to various forms of cancer. WHO estimates that food borne and waterborne diarrheal kill about 2.2 million people annually, 1.9 million of them being children[12]. The European system responsible for food quality and safety should be improved constantly, by working on the food law, supporting the development of agribusiness, promoting extensive methods of production and improving quality management systems. It will certainly bring many benefits, such as: an improvement of public health, an increase of the consumers' satisfaction, more efficient use of resources and lower operational costs.

Food quality improvement should be based on the production capability of Polish agribusiness, especially on rural potential. Since 2004, the number of organic farms has been growing dynamically, thanks to favorable agri-environmental, social and economic conditionings. Organic production is a specific method of production, regulated by a large and detailed set of rules and principles. Its primary aim is to produce high quality products regarding natural environment protection and animal welfare. The consumers decisions about buying organic food are determined by high quality. Governments and official agencies support organic farming because of the environmental, human and animal benefits. The quality should always get along with the price of a product. To achieve it, the agri-food chain should be as short as possible. Lengthening the chain means, most likely, lower quality and higher supply costs [Jałowiec, Płaczek 2011].

[12] www.who.int, as of September 20, 2011.

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JAKOŚĆ ŻYWNOŚCI I JEJ UWARUNKOWANIA

Streszczenie. W artykule omówiono pojęcie jakości żywności, uwypuklając znaczenie jakości zdrowotnej. Przedstawiono też najnowsze fakty z zakresu zarządzania bezpieczeństwem żywności w Polsce i innych krajach Unii Europejskiej. Podjęto próbę analizy głównych uwarunkowań jakości żywności, w tym uwarunkowań formalno-prawnych, potencjału produkcyjnego polskiego agrobiznesu oraz stosowanej metody produkcji. Stosunkowo dużo miejsca poświęcono w pracy rolnictwu ekologicznemu, gdyż ze wszystkich współczesnych systemów produkcji rolnej, zagadnienia jakości i bezpieczeństwa żywności najsilniej dotyczą produkcji ekologicznej.

Słowa kluczowe: jakość i bezpieczeństwo żywności, czynniki kształtujące jakość żywności, prawo żywnościowe, potencjał produkcyjny agrobiznesu, rolnictwo ekologiczne

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