

DEVELOPMENT OF ORGANIC FARMING IN THE USA

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Abstract. The objective of the paper is to present the development of organic farming in the USA. The development of organic farming is closely linked to the sustainable theory development with economic, social and environmental goals. The aim of organic farming is to produce using a sustainable balance of natural resources. Equally important is production based on organic methods that do not use chemical fertilizers. Authors used the descriptive methods to analyze collected material. Authors have analyzed data from 2000 to 2010, mainly USDA data to analyze the state and development processes of organic farming in the USA. The collected data shows that organic farming is dynamically expanding in the US. The number of organic farms increased in the years 1992–2008 nearly 361%, but it decreased 29.4% in the years 2008–2011. Particularly big changes occurred in certified organic acreages for milk cows (1,936%), pastures (438%), and fruits (250%) in the years 2008–2011. Moreover, the percentage of organic food in the total food market increased from 1.6% in 2000 to 4% in 2010. The data proved that organic produce accounted for 37% of US organic food sales in 2008. US is a big exporter of organic commodities with the highest percentage in 2011 for lettuce, apples and grapes. However the imports exceeds exports. The analysis of collected material proved growing demand for organic products of American society. However, the price of organic products is still high and the increase of organic food production may drop the prices.

Key words: development, organic farming, the USA

INTRODUCTION

Organic farming is considered to be alternative to conventional agricultural practices. This system is different from other types of agriculture because its rules are regulated within legal framework [Oelofse et al. 2011]. The world's first organic course at Koberwitz in Silesia (now Kobierzyce, Poland) run by Rudolf Steiner who led to the development of “biodynamic agriculture”, and, more generally to “organic farming” [Steiner 1924].

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In 1940 J.I. Rodale used the term, “organic farming” in US. In England the term was used by Lord Northbourne and described it as “dynamic living organic whole” [Thilmany 2006].

Organic farming is a very important kind of rural activity. USDA’s National Organic Program defines organic production as “a system that is managed in accordance with the Organic Foods Production Act (OFPA) of 1990 and regulations in Title 7, Part 205 of the Code of Federal Regulations to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. The National Organic Program (NOP) develops, implements, and administers national production, handling, and labeling standards”. As defined by the USDA Study Team on Organic Farming: “Organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock feed additives. To the maximum extent feasible, organic farming systems rely upon crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic wastes, mechanical cultivation, mineral-bearing rocks, and aspects of biological pest control to maintain soil productivity to supply plant nutrients, and to control insects, weeds and other pests” [Report and Recommendations on Organic Farming 1980]. The definition of organic agriculture is supported by International Federation of Organic Agriculture Movement (IFOAM) according to which it is “a production system that sustains the health of soil, ecosystems, and people. It relies on ecological process, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects” [International Federation of Organic Agriculture Movements]. Another definition describes organic farming as a philosophy and system of farming that helps maintain ecological awareness of society [Goshing et al. 2006].

Organic farming is an activity that enables producers to raise crops in accordance with harmony with land and local conditions. But organic farming requires more labour than conventional farming. The owners of organic farms must hire labour and the system is based on crop rotation to sustain the fertility of land [Dmitri 2010]. The survey carried out by Klimek and Baran [2007] proved that organic agriculture is developing well in regions having good natural values and landscape amenities, but conditions for large scale agricultural productions are unfavorable.

Nevertheless, as the demand for organic products has grown, larger producers have entered the market. The traditional organic producer is small, but his/her share of the market is shrinking. For example, most organic poultry and eggs are produced on big operations that are integrated by a feed company or some other firm. To develop organic farming one needs financial, educational and organizational support. This will help spread the knowledge about organic farming and improvement of market for organic products [Runowski 1996, 2003]. Organic farming is based on special regulations, standardization and certification, which is designed to support the quality and management of organic production [Jahroh 2010]. Still organic farming can be an opportunity for smaller farms with poor soils and challenging economic conditions [Kucińska et al. 2008].

Because it is more labour-intensive, organic farming can provide employment opportunities, particularly in rural communities. This creating opportunities for unemployed or underemployed people in rural areas, often women [Ortiz Escobar, Hue 2007]. Organic farming can also help farmers to increase their incomes and improve their economic situ-

ation. Farmers engaged in organic farming are more focused on environmental actions and do not use chemical fertilizers [Bórawski 2008].

Organic farming fulfills social, economic, healthy, cultural, political, human and environmental functions. Social functions include the possibilities of creation new jobs. Social functions mean also social trust on a number of levels, such as farmers learning together and building trust among neighbours by sharing machinery and other resources.

Economic effects are mainly characterized by the possibilities to increase farm incomes. Moreover, organic farms contribute to economic development by creating local markets, being involved in many small businesses, and purchasing farm supplies or households needs, often locally.

Healthy functions can be described as the possibilities of health changes of farmers and organic food purchasers and pesticides elimination [Pawlewicz 2007, Przado 2012].

Cultural functions are the participation of organic producers in the cultural life of their communities, supporting events and helping neighbours.

Political development can be described as participation of organic producers in community issues for example road issues, land-use or school or health-care concerns.

Human functions of organic producers include their involvement in apprenticeship programs to bring up young, environmentally-conscious farmers. Moreover, organic agriculture provides women with many executive functions at different levels.

Finally, environmental functions mean prohibition of use of hazardous substances for people in plant cultivation and animals breeding, meaning the protection of the environment [Sumner 2010]. Environmental functions may help to develop tourism, which “can be one of the effects of a significant improvement in the quality of life of different societies” [Brelík 2012].

THE THEORY OF SUSTAINABLE DEVELOPMENT

Organic farming is closely linked with the theory of sustainable development [Runowski 2009a], which includes different aims: ecological, economic and social. The development of economic efficiency in organic farms is and will be restricted by the rules of certification of harvested plants and breeding animals. One definition describes sustainable development as a “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [World Commission on Environment and Development’s Bruntland Commission 1987]. But, the concept of sustainable development requires financial support of institutions and policies addressing the main issues, which have many weaknesses in designing and implementing issues [Wei Kua, Gunawansa 2013].

The sustainable development includes strategies, such as:

- solar and wind energy, which can help reduce usage of non-renewable power sources,
- sustainable construction, which uses recycled or renewable sources and may be more energy efficient,
- crop rotation, which reduces fertilizer and chemical use, therefore reducing the diseases in soil,

- water fixtures that conserve water, a crucial part of sustainable development [The definition of Sustainable Development].

Sustainable rural development and organic farming efforts are underway in many countries and rural areas. Organic farming development can contribute to the sustainable development [Pulgiese 2001]. In the process of sustainable development natural, economic and social values are equally important. Organic farming with elimination of chemo-synthetic inputs will reduce production costs and farmers may be able to achieve higher profitability. Social aspects include social interactions, political and cultural development. Environmental aspects represent the benefits of organic agriculture by gains in biodiversity, environmental protection and reduced resource use. Organic agriculture in terms of sustainable development is based on: decentralization, independence, community, harmony with nature, diversity and restraint. In contrast, conventional agriculture often involves: centralization, dependence, competition, domination of nature, specialization and exploitation [Niggli 2007]. Organic agriculture can be described as a sustainable and environmentally friendly system which delivers a wide range of benefits. One is improvement of social capital, a stronger relationship between institutions and farmers, and better implementation of agricultural policy [Organic agriculture and food security in Africa 2008]. Organic farming can be an example of farmers' economic activity. Economic activities of farmers require involvement of land, capital resources and labour [Wojewodzic 2012].

Organic farming has a positive impact on soil and can improve soil quality. Organic farming does not use chemical fertilizers and pesticides, and therefore it can improve the ability of soil to sustain biological activity and diversity. What is more organic agriculture can help to achieve good fertility of land and regulate water and filter and buffer inorganic materials [Karlen et al. 1997]. In addition organic farming restricts hormones and antibiotics for animals, which should have permanent access to open pasture and should meet their nutritious requirements [Organic farming in the EU 2012]. Organic agriculture helps protect agriculture and animal welfare, which results in delivering customers good, healthy and pesticide-free food. Nearly 1.8 million hectares of land was under organic agriculture in 2008 in the US [FiBL-AMI-IFOAM survey 2013].

Organic production in the US is regulated in part by the Farm Bill, which introduced the National Organic Certification Cost-Share Program. This program improves the economic situation of organic producers and introduced the organic certification subsidy. The Farm Bill is an omnibus law that covers many aspects of agricultural policy and expenditures. While traditionally the Farm Bill has dealt with the large acreage commodities, such as corn and wheat, recent Farm Bills have included programs to give alternative agricultural practices access to public funds.

OBJECTIVE AND METHOD

The objective of the paper is to present the state of organic farming development in the USA. An additional objective of the study is to evaluate the organic food market development and exports in the US. Data about organic farming development from USDA and the Research Institute of Organic Agriculture were collected. Authors used

descriptive methods to present the state and development of organic farming in US. The results are presented in tables and figures. Quantitative and qualitative data were analyzed over time, which helped uncover tendencies in the development of organic agriculture and market development in the US.

The research results include certified organic acreages for fruits, milk and pasture. Certified organic livestock and poultry in US in the years 1992–2008 were also presented. To describe the market for organic food in US, authors showed the organic growth and presented the growth of organic products, such as: fruits and vegetables, dairy, beverages, packaged foods, breads and grains, snack food, meat, fish, poultry and condiments, in the years 2000–2010.

The export levels of main organic commodities were also presented.

DEVELOPMENT OF ORGANIC FARMING IN US

The data presented in Figure 1 show the development of organic farming in US. The number of farms engaged in organic production has increased nearly 361% in the years 1992–2008. Such development reflects the growing demand for organic products. However, we can observe the decrease in the years 2008–2011 in the number of farms (29.4%)¹.

The number of farms engaged in organic production is diversified regionally. The six US states with the largest number of farms in 2008 were: California (2,714), Wisconsin (1,222), Washington (887), New York (827), Oregon (657) and Pennsylvania (586) [USDA 2008].

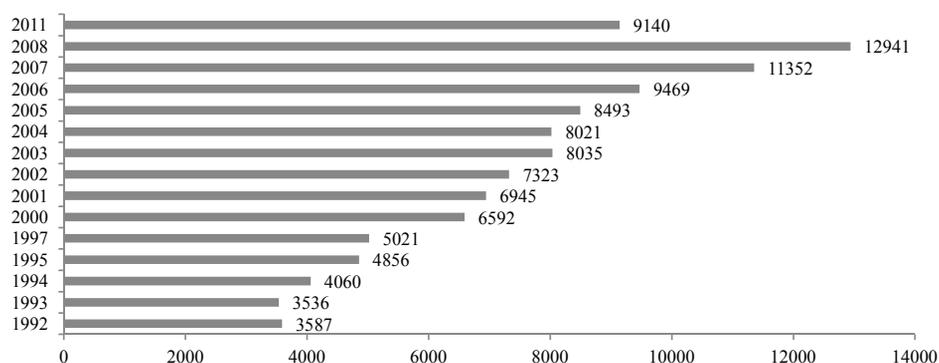


Fig. 1. Number of certified organic farm operations in US in the years 1992–2011

Source: USDA 2008. Census of Agriculture.

¹The decrease over this period may reflect different methods of survey by the USDA. However, it may also reflect a decline in farm numbers because of the economic challenges during this period. There also may have been mergers between producers to survive the slowing economy and achieve some economies of size. It is unlikely that the entire 29% decrease in farm numbers is exit from organic production. The 2007 data is from the Census of Agriculture and is done by complete enumeration, while the 2011 study is a sample, expanded to try to reflect the entire population. Typically the sample surveys under-measure small producers.

As Runowski [2009b] points out, the main reason of starting a new organic business is the difference between economic efficiency under conventional versus organic production. If the difference is not large, the interest of organic farming is small. An example are the Netherlands. When the organic production achieves greater economic efficiency, then the interest is higher, for example in new countries of EU.

Organic farming can achieve similar results to conventional farming using fewer inputs, helping to sustain fertile soil. This system of production may reduce soil pollution, keep soil micro-organisms healthy, protect biodiversity and control water pollution and soil erosion [Devi et al. 2007].

The United States is a big producer of organic foods. The data presented in Table 1 show the development of organic farming in the USA. Organic acreages for fruits, milk cows and pasture have increased in the years 1997–2008. This increase in certified organic acreages is a result of increasing demand for organic products. Particular increases were in certified organic acreages for milk cows (1,936%), pasture and rangeland (438%), total vegetables (342%), and total fruits (250%) in the years 1997–2008.

Table 1. US area of certified organic fruits and pasture, and number of milk cows breeding in organic system (1997–2011)

Specification	1997	2000	2001	2002	2003	2004	2005	2008	2011
Total Fruits (1,000 acres)	49.41	43.48	55.68	60.69	77.99	80.71	97.28	121.066	81.537
Total Vegetables (1,000 acres)	48.23	62.34	71.67	69.87	78.90	79.52	98.53	164.888	118.071
Milk cows (1,000 head of dairy cows)	12.90	38.20	48.68	67.21	74.44	74.84	87.08	249.766	213.376
Pasture and rangeland (1,000 acres)	496.39	557.17	789.51	625.90	745.27	1 592.27	2 331.16	2 160.58	1 621.68

Source: USDA 2008. Census of Agriculture, Dimitri and Oberholtzer 2009. Marketing U.S. Organic Foods. Recent Trends From Farms to Consumers / EIB-58 Economic Research Service / USDA. USDA, 16.

Organic production is diversified regionally. California had the greatest number of acres devoted to organic fruit and vegetable production in 2005. Following California were Washington, Oregon, North Dakota, Minnesota, Wisconsin, Montana and Iowa. When considering acreages of organic pasture for livestock the leading states in 2005 were California, Texas and Montana [Johnson 2008].

The percentage of organic acreages to total acreages varies widely in the EU, too. Austria, Switzerland, Italy and Sweden are countries with the highest percentage of organic acreages. Among new members of the EU, Latvia, Czech Republic and Slovakia had the highest percentage of organic acreages. As Runowski [2009b] points out, the possibilities of achieving additional subsidies to organic acreages is the main reason for high interest of this kind of production.

Each year the percentage of organic production is increasing. Organic food growth is changing. The data in Table 2 show a big increase in organic livestock and poultry in the US. The number of certified organic livestock and poultry in the US has increased in

Table 2. Number of certified organic livestock and poultry in the US in the years 1997–2011

Year	Livestock					Poultry		
	beef cows	milk cows	other cows	hogs and pigs	sheep and lambs	layer hens	broilers	turkeys
1997	4 429	12 897	–	482	705	537 826	38 285	750
2000	13 829	38 196	–	1 724	2 279	1 113 746	1 924 807	9 138
2001	15 197	48 677	993	3 135	4 207	1 611 662	3 286 456	98 653
2002	23 384	67 207	10 103	2 753	4 915	1 052 272	3 032 189	305 605
2003	27 285	74 435	11 501	6 564	4 561	1 591 181	6 301 014	217 353
2004	36 662	74 840	36 598	4 883	4 270	1 787 901	4 769 104	164 292
2005	36 113	87 082	58 822	10 018	4 471	2 415 056	10 405 879	144 086
2006	41 636	130 159	72 229	7 508	5 372	3 071 994	5 529 933	165 610
2007	64 514	166 178	115 220	9 274	8 155	3 872 271	7 436 321	315 754
2008	63 680	249 766	144 817	10 111	7 455	5 538 011	9 015 984	398 531
2011	35 367	213 376	199 354	12 125	5 741	6 739 949	4 212 752	497 891

Source: USDA, Economic Research Service, based on information from USDA. Accredited State and private organic certifiers.

the years 1997–2008. Particular growth in the years 1997–2008 in US was observed in the number of: turkeys (53,137%), broilers (23,550%), other cows (14,543%), sheep and lambs (10.57%), milk cows (1,937%), beef cows (1,438%), and layer hens (1,030%).

Organic production is diversified regionally in the US. California had the largest number of beef cows (13,177) and milk cows (55,224) in 2008. Iowa had the largest number of hogs and pigs (3,961) and sheep and lambs (1,491). Pennsylvania had the largest number of layer hens (1,078,000) in 2008 and Nebraska had the largest number of broilers (6,501,000) in 2008.

As Runowski [2009a] points out, initially organic production was focused on plants and later moved into animal production. The priority had ecological plant production before ecological animal production. Similarly, early production was of milk and eggs and later expanded into meat animals.

DEVELOPMENT OF THE MARKET FOR ORGANIC FOOD IN THE US

Organic farming cannot develop without a market for organic food. This includes processing, distribution and selling of organic products. The market for organic food in the US includes demand for organic products and their supply. The ecological awareness of consumers is increasing each year and more consumers want to buy healthy food.

The latest research shows that retail sales of organic foods increased from \$3.6 billion in 1997 to \$21.1 billion in 2008 in the USA, and that 69% of adults bought organic food at least occasionally in 2008, while 19% of consumers bought organic food weekly in 2008 (3% in late 1990s). Organic food was purchased by 51% of shoppers in 2006 (44% in 2001). Some growth may be attributed to the USDA national standards, implemented in 2002 [Barry 2004]. The constant growth of the US organic industry has caused a major shift in the types and numbers of organic food retailers, manufacturers, distributors, and producers and has widened the retail consumer base [Dmitri, Oberholtzer 2009]. One

important factor in the increased consumption is the wider availability of organic products in mainstream supermarkets. Before 2000, a limited selection of organic products was in supermarkets, with most available only in “health food” stores, which had higher prices and usually required a special shopping trip.

Consumer demand for organic products has been growing. Consumers can buy more organic products from fresh organic fruits to organic frozen foods and beverages. The global market for organic food is worth \$59 billion. The European Union and US are the main organic producers in the world and the market increased nearly 8% in 2010 in comparison to 2009 [Organic farming in the EU 2012]. The development of organic farming is differentiated in European Union countries. There were four countries in 2007 where more than 10% of the agricultural land is organic: Lichtenstein (29.7%), Austria (15.9%), Switzerland (11%) and Sweden (10.8%) [Willer 2009]. The tendencies of organic farming development are differentiated. We can describe the process of organic farming development in Great Britain and Australia as regressive, while Germany and Spain record a positive change [Runowski 2009a]. The highest number of organic farms in EU in 2007 was in Italy (45,231 farms) and Greece (23,796). Organic farming has been developing rapidly in Europe, too. According to Willer [2009], the positive growth of organic farming is aided by several policy support measures, such as funding under rural development programmes, legal protection, action plans, as well as support for research.

According to data of the Organic Trade Association, the share of organic market in the total US food market increased from 1.6% in 2000 to 4.0% in 2010. This tendency reveals the increase of consumer demand for organic commodities. The description of market includes the value of retail sales. According to FiBL-AMI-IFOAM survey from 2013, the value of retail sales of organic products was €21,038 million in US in 2011 and 44% of total retail sales value was distributed in 2012. These results demonstrate the big scope of the organic products market development [FiBL-AMI-IFOAM survey 2013].

The market for organic products in the USA has been developing each year. US sales of organic products were \$21.1 billion in 2008 over 3% of total food sales and reached \$23.0 billion in 2009 [Nutrition Business Journal]. The recession in 2009–2010 hurt organic sales growth.

The consumer demand for organic food is increasing and the competition is increasing in this sector, too. Organic production in US has an impact on global market. The data coming from USDA show that the market is a growing part of worldwide production. It embraced more than 4.1 million acres in 2008 [USDA 2008]. The diversification of a market is a crucial issue for its economic resilience. The development of organic farming is important for the development of agriculture in US and industry. Each additional job in agriculture supports an additional 0.89 jobs elsewhere. Moreover, each additional job in dairy farming creates additional 1.23 jobs elsewhere [Deller, Williams 2009]. Since organic production is more labour-intensive, the same amount of revenue may generate proportionately more jobs.

A survey carried out by Swenson et al. [2007] shows that organic farming has an impact on agriculture and the economy. Organic farming has an impact on economic activity around labour whereas conventional farming has a greater impact on economic activity connected with purchased inputs [Swenson et al. 2007].

Organic produce accounted for 37% of US organic food sales in 2008, followed by dairy (16%), beverages (13%), packaged and prepared foods (13%), bread and grains (10%), snack foods (5%), meat, fish, and poultry (3%), and condiments (3%).

The analysis included the demand for organic products in 2010 US farmers' markets. The strongest demand can be observed in the eastern, western and southern part of the US. Such distribution of high demand for organic production is mainly the result of higher population in these regions. However, this does not explain the pockets of strength in the far Northwest and Northeast. These areas clearly have a strong philosophical interest in organic production beyond their population size. The Southeast, except Florida, is the opposite. Whether pushed by supply or pulled by demand, some regions have much bigger market shares of organic products. Organic food is available in nearly 20 thousand natural food stores and nearly 3 of 4 conventional grocery stores [USDA ERS – Organic Agriculture: Organic Market Overview].

An interesting factor is the exports of US organic commodities. Organic products accounted for more than \$410 million in export sales in 2010 [Trade and Equivalency Agreements]. The highest value of export of organic products in 2011 was represented by: lettuce (\$85 million), grapes (\$60 million) and apples (\$46 million). These three commodities accounted for more than 46% in US organic commodities exports in 2011 (Table 3).

Table 3. Export trade data of organic products in 2011

Specification	Organic products export in 2011	
	Million \$	%
Potatoes	1 590	0.4
Cherry tomatoes	1 139	0.3
Roma (plum type tomatoes)	1 171	0.3
Tomatoes	2 734	0.7
Onion sets	2 246	0.5
Cauliflower	18 013	4.4
Broccoli	9 873	2.4
Head lettuce	1 868	0.5
Lettuce	85 196	20.6
Carrots	22 696	5.5
Celery	7 082	1.7
Peppers	1 979	0.5
Spinach	20 943	5.1
Oranges	14 182	3.4
Lemons	6 281	1.5
Grapes	60 001	14.6
Apples	46 200	11.2
Pears	8 923	2.2
Cherries	30 624	7.4
Strawberries	15 771	3.8
Blueberries	16 367	4.0
Coffee	15 212	3.7
Tomato sauces	21 941	5.3
Total	412 032	100.0

Source: Trade and Equivalency Agreements. Organic Trade Association. Retrieved from: www.ota.com/GlobalMarkets/Trade_Equivalency.html

On the other hand, organic commodities are also imported into the US. There is no data about imports of organic commodities, however the value of organic imports in 2002 was between \$1 billion and \$1.5 billion, while the value of organic exports was \$125 million [USDA ERS. Organic Agriculture: Organic Trade]. The US is an organic food exporter but imports exceed exports by a ratio of at least 8 to 1 in 2002. A major import is organic corn, especially from China. It was a result of constant increase a demand for organic animal products. Most of the organic products were sold in supermarkets, grocery stores, club stores and mass merchandisers [Thilmany 2006].

The demand for organic products is developing well in Europe and North America and is the fastest growing food market segment based on imports from developing countries [How organic agriculture contributes to economic development in Africa 2010]. The food can be sold at local and regional markets and it is not especially capital intensive. It has been found that organic food sales grew by 9 to 16% through 2010 and organic sales will reach 3% of the US food market.

CONCLUSIONS

Organic agriculture has grown rapidly in the US. The number of farms increased by 370% from 1992 to 2008. This increase was aided by improvements in the quality and cost decreases for organic production and as the market grew, more market outlets for organic products. Certainly when conventional supermarkets began to stock organic products, consumers had easier access to healthy food. However, the recession of 2008–2011 hurt organic markets. Smaller farms have seen organic agriculture as an opportunity to escape the fierce competition of producing commodity products for the convention markets. Of course, the organic tradition implies production by small farms, although the rules do not preclude large scale production, and if the returns stay high, the share of organic production by larger producers will grow.

Particular growth in organic production occurs where conditions for selling the products are most favourable. Sizeable increases occurred in the years 1997–2008 for certified organic acreages for milk cows (1,936%), pasture and rangeland (438%), total vegetables (342%), and total fruits (250%). This growth has been driven by growing demand, and helped by easier consumer access.

Organic animal production is developing, too. As organic feed becomes more available, organic eggs and poultry production have expanded. The development of organic animal production was observed based on the example of the number of: turkeys (53,137%), broilers (23,550%), other cows (14,543%), sheep and lambs (10,57%), milk cows (1,937%), beef cows (1,438%), and layer hens (1,030%). Organic pork and beef are also available, but so far are much less important. The increase in animal production confirms growing demand for organic products of American society.

The share of the organic market in the total US food market increased from 1.6% in 2000 to 4.0% in 2010. However, as a premium product category, the market is vulnerable to shocks, such as the global economic crisis, which weakened the organic food growth in the years 2008–2011. Consumers now expect supermarkets and big greengrocers to stock

organic products. The promotion of organic food products by retailers can enhance the still growing demand for US ecological food.

The USA is a big exporter of organic commodities, however imports exceed exports. The excess of imports over exports is a result of the increase in demand for organic products. The number organic product sellers is widening and with products are now sold in supermarkets, grocery stores, club stores and mass merchandisers, whereas in earlier times organic products were mainly available in health food stores. As these products become more mainstream, and the size of producers increase, the premiums of organic food compared to conventional food will drop, making organic food more affordable.

Summing up organic farming will grow in the US in the future. However, the higher prices of organic commodities in comparison to traditional agricultural commodities limit demand. As the organic premiums decrease, the organic share of markets will certainly grow.

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ROZWÓJ ROLNICTWA EKOLOGICZNEGO W USA

Streszczenie. Celem opracowania jest przedstawienie rozwoju rolnictwa ekologicznego w USA. Rozwój rolnictwa ekologicznego jest ściśle związany z teorią zrównoważonego rozwoju obejmującego cele ekonomiczne, społeczne i środowiskowe. Celem rolnictwa ekologicznego jest osiągnięcie wyznaczonych zadań bez nadmiernego wykorzystania środowiska. Równie ważna jest produkcja wykorzystująca metody organiczne bez nawozów mineralnych. W celu oceny stanu i rozwoju rolnictwa ekologicznego w USA przeanalizowano dane od 2000 do 2010 roku, głównie z bazy danych USDA. Zebrane dane dowodzą, że rolnictwo ekologiczne w USA rozwija się dynamicznie. Liczba gospodarstw ekologicznych uległa zwiększeniu w latach 1992–2008 o blisko 361%. Szczególnie duże zmiany zaobserwowano w powierzchni certyfikowanych upraw dla krów mlecznych (1936%), pastwisk (438%) i owoców (250%). Ponadto udział sprzedaży żywności ekologicznej w sprzedaży żywności ogółem uległ zwiększeniu od 1,6% w 2000 roku do 4% w 2010 roku. Dane dowodzą, że w 2008 roku sprzedano 37% produkcji ekologicznej. Stany Zjednoczone są dużym eksporterem produktów ekologicznych z największym udziałem eksportu sałaty, jabłek i winogron w 2011 roku, jakkolwiek import przewyższa eksport. Analiza zebranego materiału badawczego dowodzi rosnącego popytu na produkty ekologiczne w społeczeń-

stwie amerykańskim. Ceny produktów ekologicznych są nadal wysokie i rozwój produkcji ekologicznej może doprowadzić do ich spadku.

Słowa kluczowe: rozwój, rolnictwo ekologiczne, USA

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