

## ECOLOGICAL FARM DEVELOPMENT IN POLAND

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**Abstract.** Ecological farming is developing rapidly in Poland. It enhances farm incomes while preserving the natural environment and cultural heritage. Ecological farming is based on natural methods of land cultivation which preserve the fertility of land and protect animals. The most important advantage of ecological farming is the preservation of biodiversity. The number of ecological farms increased in 2005 to almost ten times their 1999 figures. The average ecological farm area has 23 hectares and is much larger in comparison to traditional farms. The total average agricultural land under ecological production in 2005 also increased. The collected data from the Ministry of Agriculture and Rural Development has confirmed the increasing use of ecological agriculture and the number of processing factories using ecological products both before and after Polish integration with the European Union.

**Key words:** ecological farms, ecological farm area, area of crops in ecological farms

### INTRODUCTION

Ecological farming is environmentally-friendly. It helps to preserve the natural and cultural environment. People who take up ecological farming often display a high degree of ecological consciousness [Zaręba 2000] and such owners often seek to promote environment resources, archaeological sites and national culture [Žibėniene 2000]. Tourists can find many attractions on ecological farms, such as swimming in lakes, fishing, hunting, bird watching and even playing basketball.

Ecological farming is also very advantageous for farmers because it can increase their income by using existing premises, a free labour force and it helps to create contacts between different people. Ecological farming is a form of healthy relaxation, is relatively cheap and can be adjusted to individual needs and demands of tourists [Rzepecka 2004].

Ecological farming is based on low-tech natural resource production. It ensures land fertility, animal health and the high quality of agricultural products [Babalski 2004].

The main rules of ecological production are: the preservation of agriculture production environment, high quality of biological goods, the improvement of land fertility and the biodiversity of production.

Ecological farming is also rapidly expanding in Europe. The production of ecological methods is supported and promoted as the way of environmentally-friendly farm management [Rzepecka 2004]. Environmental programmes which aim is to promote ecological farming must meet strict environmental preservation rules.

The surface of land under ecological farming is the largest in Italy, where almost one-fourth of the total land is used for this aim [Rzepecka 2004]. Ecological farming is supported in the Plan of Development of Rural Areas in the years 2004–2006 and includes arable land, meadows and pastures and orchards. Ecological agriculture is also one of the seven agro environmental packets which will be introduced in Action 4 “Supporting agro environmental activities and the improvement of animal health” [Dobrzyńska 2004]. The demand for ecological products is increasing in Europe and the most popular are vegetables and fruits. Western European markets are generally supplied by imports from Eastern European countries, such as Poland, but the prices of ecological commodities are generally higher.

The development of ecological production depends on many factors, such as friendly agriculture advisory and promotion [Ardanowski 2004]. The development of commercial, private advisory will undoubtedly decrease the demand for services, especially for poor farmers. The promotion of ecological farming will improve its development.

The introduction of market economics in agriculture should be integrated with ecology and ethics. The concept of ecological agriculture is to prevent the damage to the environment, improve the lives of consumers, connect people in common activities and raise ecological awareness [Górny 1993]. The yields of basic cereal, potatoes and other plants are generally smaller in ecological agriculture than in conventional agriculture. The unit cost of ecological production is higher but the quality of agricultural commodities is better. The development of ecological production in rural areas can decrease the negative effects of economic transitions such as unemployment because people can start private tourism businesses which are based on natural resources.

The promotion of ecological farming will help alleviate rural poverty and lead to economic development. The Polish Ministry of Agriculture and Rural Development has launched a promotional campaign on ecological agriculture. The aim of the program is to provide farmers, consumers and other people with information about the advantages of ecological farming and to increase the demand for ecological commodities.

Ecological production needs more promotion and farmers should form producers' collectives. They should also work together to access additional funding. Moreover, the internet gives them the possibility to promote their farms on a larger scale than traditional local promotion.

Ecological agriculture is regulated by European Union law<sup>1</sup> and certificates awarded to Polish ecological producers are honoured in Europe.

## AIM AND METHODOLOGY

The aim of the survey was to assess the economic conditions of ecological farming development in Poland using data from the Ministry of Agriculture and Rural Development.

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<sup>1</sup> Ordinance EU 2092/91.

The data included the number of ecological farms in Poland, the average ecological farm area and the area of particular crops. In addition, the average agricultural land on which ecological production was introduced in the years 2003–2005 and the number of ecological production processing factories are presented.

## RESULTS

The development of ecological farms depends on regional conditions. Ecological agriculture does not mean returning to medieval cultivation. The vision of ecological agriculture is based on three pillars: people, environment and healthy food [Gaziński 1993]. In many regions of Poland, ecological farms are a chance for national resource preservation. It means a return to values lost because of mass production.

Ecological agriculture is a farming system with sustainable plant and animal production. It is based on natural, rather than chemical, fertilizers. It provides soils with natural ingredients improving its fertility and animal health. It is forbidden to use hormones and synthetic products or other chemical plant preservation products in ecological production

The data from Ministry of Agriculture and Rural Development have proved a significant increase in ecological farms number in Poland. During the years 1999–2005, ecological farms number have increased more than fourteen times (Fig. 1).

Another important characteristics of ecological farms is certification. Certified farms offer the highest value of services. The number of certified ecological farms increased in the years 1999–2005 nearly ten times. The data has proved that Poland is in the primary stages of ecological farming development. It means that Poland has the possibility to increase this kind of activity when the natural resources and history will be utilized in

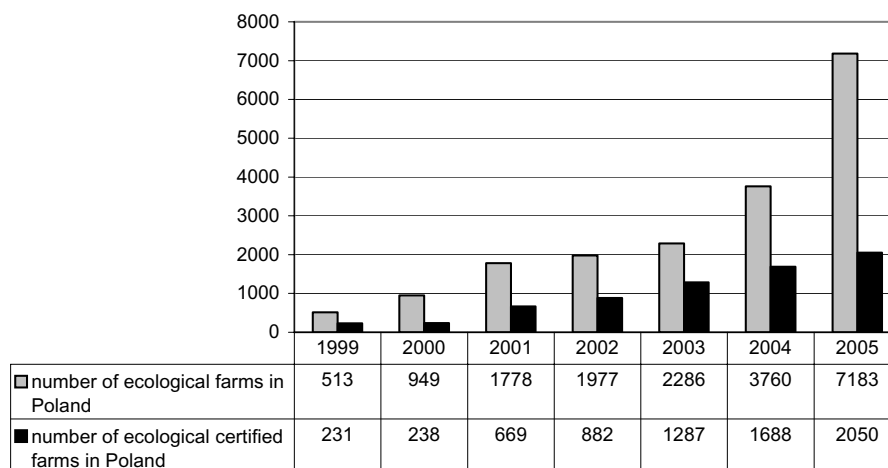


Fig. 1. Number of ecological farms in Poland in the years 1999–2005

Rys. 1. Liczba gospodarstw ekologicznych w Polsce w latach 1999–2005

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

a wise and advantageous way. It is also possible when all marketing factors, for instance: good services, cheap price, effective promotion and fast distribution will be used to promote ecological farming in Poland. Moreover all available data show an increasing fragmentation of ecological farming in Poland. The traditional agriculture is not so attractive and now consumers demand more specialized eco-tourism, because they want fully participate in local people life and culture, to do active sports, admire the beauty of natural countryside, protect the environment and improve well-being of farmers running ecological farms and people offering additional services for them.

The care for natural preservation is expressed by people around the world who become more environmentally sensitive and that is why they are more interested in ecological farming believing that the environmental protection is public issue [Górny 1993]. Argusa and Guidry using Hasek [1994] data claim that ecological farming and tourism will be expanding about 20–25 percent each years. Countries which contain regions full of diversity of flora and fauna are particularly designate to increase this kind of activity. Poland natural resources are very big and huge amount of them is under control and preservation. There are many natural parks and forests, lakes, mountain which confirm about our country basis to develop ecological farming and eco-tourism totally different from conventional agriculture and mass tourism.

The highest dynamics of ecological farms in the years 2001–2005 was observed in zachodniopomorskie (1219%), lubuskie (963.6%) and podlaskie (867.8%) provinces, but the lowest dynamics was observed in mazowieckie (333%) and lubuskie (268.4%) provinces. Even though the dynamics of ecological farm is different, the dynamic in all provinces is positive. A significant increase in ecological farms in Poland proved that this kind of activity is very popular among farmers and have great possibilities of development in the future.

The development of ecological farms depends on regional conditions. Ecological agriculture does not mean come back to old cultivation. The vision of ecological agriculture is based on three pillars: people, environment and healthy food [Golinowska, Janowska-Biernat 2006]. In many regions of Poland ecological farms are chance for national resources preservation. It means the direction to values lost because of mass production.

The survey also referred to ecological farm area. It is possible to conclude that the average ecological farm area is much bigger than the average farm area in Poland. The dynamic of ecological farming development confirm that the ecological arable land in 2004 was 82.7 thousand hectares, what determined about 0.4% of total arable land. The number of ecological farms has increased almost seven times and the agriculture land area has increased almost ten times from 2000 to 2005 [Rzepecka 2004]. The ecological production in Poland is invested by funds from Ministry of Agriculture and Rural Development. All ecological cultivations and plants are financed what constituted about 700 PLN by year.

The organizational structure of ecological farms has changed during the years 1999–2004. The highest number of small farms to 5 hectares was stated in 1999 (32%), but the highest number of farms from 10 to 20 hectares was found in 2004 [Rzepecka 2004]. This results do not confirm the opinion that ecological production is typical for small farms. The ecological production can be the alternative for intensive farming (Table 1).

Table 1. Number of ecological farms in particular provinces

Tabela 1. Liczba gospodarstw ekologicznych w poszczególnych województwach

Region	Province	Years					Dynamics 2001=100
		2001	2002	2003	2004	2005	
Małopolska i Podgórze	Małopolskie	173	266	407	697	1177	680.3
	Świętokrzyskie	462	389	382	547	785	169.9
	Podkarpackie	189	236	288	430	885	468
	Śląskie	15	38	33	47	81	540
Pomorze i Mazury	Lubuskie	22	29	20	66	212	963.6
	Zachodniopomorskie	36	69	85	176	439	1219.4
	Pomorskie	34	40	46	66	177	520.6
Mazowsze i Podlasie	Warmińsko-Mazurskie	81	77	126	244	484	597.5
	Mazowieckie	231	232	249	434	770	333.3
	Łódzkie	24	34	34	71	168	700
	Podlaskie	56	103	122	207	486	867.8
Wielkopolska i Śląsk	Lubelskie	288	253	263	393	773	268.4
	Kujawsko-Pomorskie	59	69	62	89	143	242.4
	Dolnośląskie	54	82	110	197	396	733.3
	Wielkopolskie	41	40	40	70	170	414.6
	Opolskie	13	20	19	26	37	284.6
	Total	1778	1977	2286	3760	7183	403.9

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

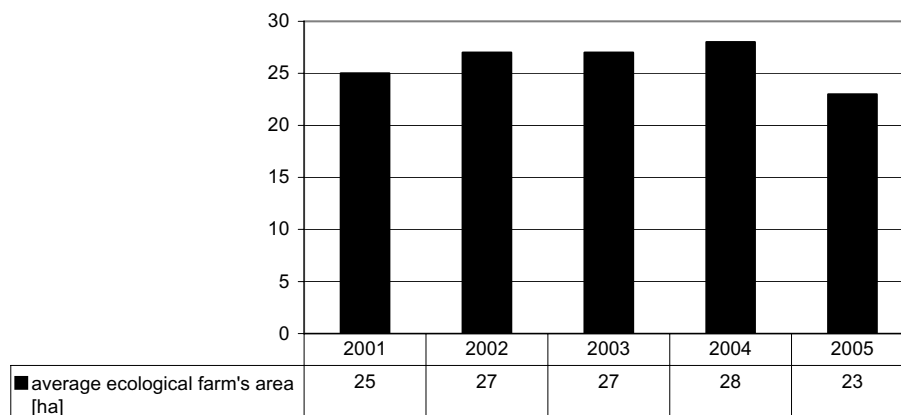


Fig. 2. Average ecological farm's area in Poland in the years 2001–2005

Rys. 2. Średnia powierzchnia gospodarstwa ekologicznego w Polsce w latach 2001–2005

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

The ecological cultivation was mainly concentrated in east region (23.4 th. hectares), but the smallest concentration was found in central region (łódzkie, mazowieckie 6.8 th. hectars) in 2004.

The data has proved that the biggest part of ecological farms determined meadows and pastures (Table 2). The structure of ecological farms is determined by ecological cultivation. As Brodziński points out [12] meadows and pastures accounted for 51% of farm area. Such structure is typical for ecological farms which have not intensive production. On the second position there were agricultural cultivations (grains, potatoes). A significant part of ecological farms determined orchards (4.2%) and vegetables (1.2%). When comparing the crops structure of ecological farms in particular farms we can find that certified farms had the most agriculture cultivation, orchards and vegetables. But, the farms in the first year of changing were characterized by biggest meadow and pastures area. The highest percentage of meadows was characterised for małopolskie province (73%), but the lowest for kujawsko-pomorskie (21.2%). The regional differentiation of meadows percentage depends mainly on natural resources and environment conditions.

Table 2. The area of particular crops in ecological farms in 2004 (ha)

Tabela 2. Wielkość poszczególnych rodzajów upraw w gospodarstwach ekologicznych w 2004 r. (ha)

Specification	Meadows and pastures	Agricultural cultivation	Orchards	Vegetables	Together
Certified farms	15 901.1	15 909.9	1 553.4	487.3	33 851.7
Farms in the first year of changing	17 629.1	13 396.5	1 278.1	272.9	32 576.6
Farms in the second year of changing	5 330.5	4 051.4	372.3	69.6	9 823.8
Total	38 860.7	33 357.8	3 203.8	829.8	76 252.1
Percentage (%)	50.9	43.7	4.2	1.2	100.0

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

The organizational structure of ecological farms has changed during the years 1999–2004. The highest number of farms with less than 5 hectares was in 1999 (32%), but the highest number of farms from 10 to 20 hectares was found in 2004 [7]. These results do not support the view that ecological production is only for small farms. Ecological production can be an alternative to intensive farming. Moreover, ecological farming demands more human resources in agriculture in exchange for ecologically-balanced agriculture. It eliminates human damage to ecosystems, which stops the process of environment degradation.

The average agricultural land used for ecological production almost doubled from 2004 to 2005 and was three times higher than 2003. It means that the agricultural land used for ecological production is rapidly increasing.

Not all Polish farms have resources for ecological development and not all producers are interested in ecological production. However, the agrarian structure and the low level of technology in rural Poland is a chance for many farms to use ecological methods of production [12].

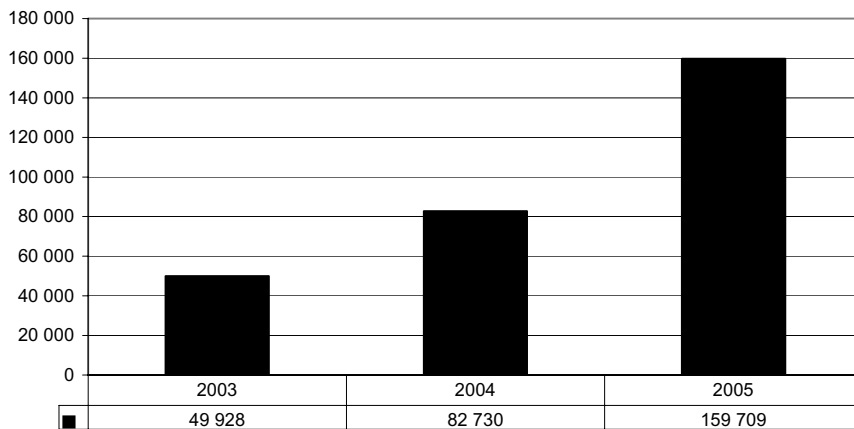


Fig. 3. Total average agricultural land in which ecological production was introduced in the years 2003–2005

Rys. 3. Powierzchnia użytków rolnych, na których prowadzona była produkcja rolna metodami ekologicznymi w latach 2003–2005

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

The data shows that the number of processing enterprises was almost 5 times higher in 2005 than in 2003. It shows that the development of ecological farms increased the demand for the processing of such products (Fig. 4).

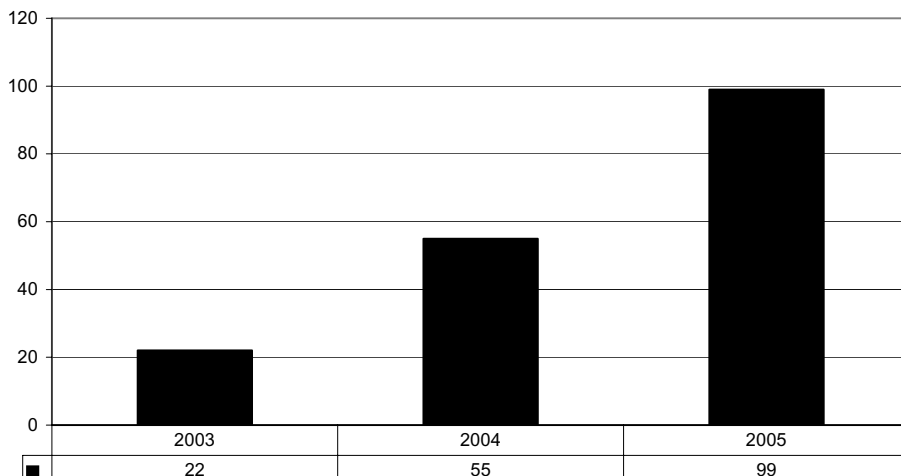


Fig. 4. Number of processing factories for ecological production

Rys. 4. Liczba przetwórnictwa produktów rolnictwa ekologicznego

Source: Data from Ministry of Agriculture and Rural Development.

Źródło: Dane Ministerstwa Rolnictwa i Rozwoju Wsi.

## CONCLUSIONS

The development of ecological farms in Poland does not just involve its expansion, but rather its specialization. It is advantageous not only for the environment, but also for the economy and people. It is a chance for Polish agriculture to be a significant ecological producer in Europe.

The data collected from Ministry of Agriculture and Rural Development reflect the significant increase of ecological farms in Poland. This tendency was visible both before and after Polish integration with European Union and what is particularly important is the fact that the number of ecologically-certified farms in Poland has increased almost ten times in 2005 in comparison to 1999. It means there has not only been an increase in certified farms but also in the quality of ecological commodities. This situation is a chance for Polish ecological producers to increase sales not only on national markets, but also on European markets. The ecological awareness of people in Europe is increasing and more consumers are choosing to buy more expensive commodities which guarantee high quality.

Ecological agriculture ensures better biodiversity of animals and plants which do not pollute waters and also preserve the diversity of rural areas.

Integration with the European Union opens the door for Polish ecological farmers to sell on western markets. However, ecological farmers should be better integrated into producers' collectives to give them better chances in competitive activities.

One of the key elements of ecological farming development in Poland is promotion and education. Farmers should be encouraged to use ecological methods of production and more people should be educated about ecological production advantages. Children should also be educated in schools about ecological products. Promotions concerning ecological production should also include other institutions and exhibitions at international trade shows.

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## ROZWÓJ GOSPODARSTW EKOLOGICZNYCH W POLSCE

**Streszczenie.** W Polsce ekologiczne rolnictwo rozwija się dynamicznie. Zwiększa ono dochody rolników, zachowując środowisko naturalne i dziedzictwo kulturowe. Rolnictwo ekologiczne opiera się na naturalnych metodach uprawy ziemi, które utrzymują jej

żywność i chronią zwierzęta. Największą korzyścią ze stosowania rolnictwa ekologicznego jest ochrona bioróżnorodności. Liczba gospodarstw ekologicznych zwiększyła się blisko dziesięciokrotnie w 2005 roku w porównaniu do 1999. Średnia powierzchnia gospodarstwa ekologicznego wynosiła 23 hektary i jest dużo większa w porównaniu do gospodarstwa tradycyjnego. Powierzchnia pod uprawami ekologicznymi uległa również zwiększeniu w 2005 roku. Zebrane informacje z Ministerstwa Rolnictwa i Rozwoju Wsi potwierdziły rozwój rolnictwa ekologicznego i wzrost liczby przedsiębiorstw zajmujących się przetwórstwem produktów ekologicznych zarówno po, jak i przed akcesją Polski do Unii Europejskiej.

**Słowa kluczowe:** gospodarstwa ekologiczne, powierzchnia gospodarstw ekologicznych, powierzchnia upraw gospodarstw ekologicznych

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