

## **DEVELOPMENTS OF ORGANIC FARMS PRODUCTION IN POLAND**

Maria Golinowska

Wrocław University of Environmental and Life Sciences

**Abstract.** The aim of the elaboration was to determine the development of organic farms in Poland. We deliberately selected four voivodeships to this research: Dolnośląskie, Małopolskie, Mazowieckie and Zachodniopomorskie. The research proved that in all voivodeships basic development s of organic production were fodder crops, with meadows and pastures, usually connected with one or several types of organic production. In the Małopolskie voivodeship, organic farms fit well in the system of sustainable development, while in the remaining voivodeships no considerable relation between animal production and fodder crops was recorded.

**Key words:** development production, organic farms

### **INTRODUCTION**

The number of organic farms and their areas have dynamically increased in the last several years. This tendency fits well in the concept of development of sustainable agriculture. Organic farming is environment-friendly and its products characterize recognized nutritional values [Runowski 2009, Łuczka-Bakula 2007]. At the end of 2010 the number of organic farms in Poland increased to 20582, out of which 38% constitute farms in the course of conversion. Since 1999 the number of organic farms has increased from 7.000 ha to 519 000 ha (7414%). The area of organic farms has grown up, within that period, from 7.0 thousand ha to 519 thousand ha (7414%).

Spacial differentiation in Poland, regarding both the number of farms and the areas of organic farming, is highly considerable. The highest number of farms can be found in the following voivodeships: małopolskie, podkarpackie, lubelskie, mazowieckie, zachod-

niopomorskie and Lower Silesian, while the lowest number of farms feature the opolskie and śląskie voivodeships. The largest areas of organic farming are in zachodniopomorskie, warmińsko-mazurskie, podkarpackie mazowieckie, lubelskie and Lower Silesian voivodeships, while the smallest areas can be found in opolskie, Silesian and świętokrzyskie voivodeships (Table 1).

Table 1. Ranking of voivodeships according to the number of farms and areas of organic farming  
Tabela 1. Ranking województw według liczby gospodarstw i powierzchni upraw ekologicznych

Wyszczególnienie Specification	Liczba gospodarstw – Number of farms							Powierzchnia upraw – Crops area						
	Lata – Years													
	2004	2005	2006	2007	2008	2009	2010	2004	2005	2006	2007	2008	2009	2010
Dolnośląskie	8	9	9	9	9	9	9	4	5	6	6	6	3	5
Kujawsko-pomorskie	10	13	13	14	14	14	14	11	14	13	13	13	13	14
Lubelskie	5	5	5	3	3	3	6	7	8	5	4	5	6	6
Lubuskie	12	11	11	11	11	10	10	12	10	10	8	10	7	9
Łódzkie	11	12	12	13	13	13	13	14	13	14	14	14	14	13
Małopolskie	1	1	1	1	1	1	3	5	7	8	12	7	11	11
Mazowieckie	3	3	3	4	4	4	7	6	4	4	5	4	9	3
Opolskie	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Podkarpackie	4	2	2	2	2	2	4	2	2	3	3	3	5	7
Podlaskie	7	6	6	7	7	6	5	9	9	9	9	9	4	4
Pomorskie	9	8	8	12	12	12	12	12	12	12	11	11	10	10
Śląskie	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Świętokrzyskie	2	4	4	6	6	8	8	8	11	11	12	12	12	12
Warmińsko-mazurskie	6	7	7	8	8	7	2	3	3	2	2	2	2	2
Wielkopolskie	12	10	10	10	10	11	10	10	6	7	7	8	8	8
Zachodniopomorskie	14	14	14	5	5	5	1	1	1	1	1	1	1	1

Source: own research.  
Źródło: badania własne.

The area of organic crops in the world, in 2010 according to international statistics ([www.organicword.net/statistics](http://www.organicword.net/statistics)) ranged 37 042 thousands ha, out of which 37.7% belongs to Australia and Oceania, 24.2% Europe 18.4%, North America, 8.1%, South America, 9.7% belongs to Asia and the remaining 1.9% is in Africa.

In Europe, 47 countries have land under organic production. The leader in this respect is Spain with over 1603 thousand ha, and the lowest number characterizes Malta (Table 2). In 2009 EU countries managed organic farming on the area of 8629 thousand ha, while in 2006-2009 the area of organic farming increased by 1791 thousand ha.

Table 2. Area of organic farming in EU countries  
Tabela 2. Powierzchnia upraw ekologicznych w krajach UE

No Lp.	Country Kraj	2006		2007		2008		2009	
		Area – Powierzchnia							
		thousand tys. ha	ranking	thousand tys. ha	ranking	thousand tys. ha	ranking	thousand tys. ha	ranking
1	2	3	4	5	6	7	8	9	10
1	Austria	361.8	6	372.0	6	447.7	6	519.0	6
2	Belgium Belgia	29.3	22	32.6	22	36.2	22	41.0	21
3	Danmark Dania	141.0	14	145.4	14	150.1	13	156.0	14
4	Finland Finlandia	144.7	13	148.8	13	150.4	12	166.0	12
5	France Francja	552.8	5	557.1	5	538.8	5	678.0	5
6	Greece Grecja	302.3	7	278.4	8	317.8	7	326.0	10
7	Spain Hiszpania	9 226.4	2	988.3	2	1 317.5	1	1 603.0	1
8	Netherlands Holandia	48.4	20	47.0	20	50.7	19	49.0	20
9	Ireland Irlandia	39.9	21	41.1	21	42.8	21	48.0	23
10	Luxemburg Luksemburg	3.6	25	3.3	25	3.5	22	4.0	25
11	Germany Niemcy	825.5	3	865.3	3	907.8	3	947.0	11
12	Portugal Portugalia	269.3	9	233.5	11	233.5	11	239.0	9
13	Sweden Szwecja	225.4	11	248.2	10	336.5	8	392.0	4
14	Great Britain Wielka Brytania	605.7	4	660.2	4	726.4	4	722.0	2
15	Italy Włochy	1 148.2	1	1 150.3	1	1 001.4	2	1 107.0	
16	Total 15 countries Razem 15 krajów	5 624.4	x		x	6 304.0	x	6 997.0	x
17	Cyprus Cypr	2.0	26	2.3	26	2.3	26	3.0	26
18	Czech Republic Czechy	281.5	8	312.9	7	320.3	9	367.0	7

Table 2 – cont. / Tabela 2 – cd.

1	2	3	4	5	6	7	8	9	10
19	Estonia	72.9	19	79.5	19	87.3	18	102.0	19
20	Lithuania Litwa	96.7	18	120.4	16	122.2	16	128.0	18
21	Latvia Łotwa	150.0	12	150.5	12	161.6	11	160.0	13
22	Malta	0.0	27	0.0	27	0.0	27	0.0	27
23	Poland Polska	228.0	10	285.8	9	313.9	10	367.0	8
24	Slovenia Słowenia	120.4	16	117.9	18	140.8	14	29.0	22
25	Slovakia Słowacja	26.8	23	29.3	23	29.8	20	145.0	15
26	Hungary Węgry	122.8	15	122.3	15	171.1	17	140.0	17
27	Total Razem	1 101.1	x	1 221.1	X	13 001.2	X	1 452.0	X
28	Bulgaria Bułgaria	4.7		13.6	24	16.7	19	12.0	24
29	Romania Rumunia	107.6		131.4	17	140.8	15	168.0	16
30	Total Razem	112.2		145.0	x	157.5	X	180.0	X
31	Total EU Ogółem UE	6 837.7		7 137.8	x	7 765.6	x	8 629.0	X

Source: calculations on the basis of: [www.organicword.net/statistics](http://www.organicword.net/statistics).  
 Źródło: obliczenia na podstawie: [www.organicword.net/statistics](http://www.organicword.net/statistics).

The purpose of this article was determination of developments of organic farms production in Poland.

## METHODOLOGY

In order to determine the development of organic farms production in Poland there were used secondary materials [Kędzior 2005], originating from Home Inspection of Commercial Quality of Agri-Food (GIJHAR-S) – “list of agri-producers in organic farming” for all voivodeships, in 2009. That list provided information regarding addresses of ecological farms, farm status and the type farm activity with detailed data concerning the kind of cultivation, bred animals and type of animal products. As far as plant production was concerned, there were identified 80 types of products, 24 kinds of animal production and 20 categories of animal products.

The research involved four selected voivodeships: dolnośląskie, małopolskie, zachodniopomorskie and mazowieckie (Table 1). The economical horizontal and vertical analysis allowed to determine differentiation of ecological production in 2009-2010. The results are presented in the table.

### RESEARCH RESULTS

The area structure of organic farms in Poland is of a very specific pattern, as the highest number of ecological farms can be found within the range not exceeding 5 ha and it shows a tendency to decrease (Table 3) and from 5 to 10 ha, with a tendency to increase. Percentage share of farms from 5 to 10 ha in 2010 amounted 24.3%. In the remaining ranges of size there could be observed increase in percentage points.

Table 3. Size structure of organic farms in 2009-2010  
Tabela 3. Struktura wielkości gospodarstw ekologicznych w latach 2009-2010

Voivodeship Województwo	Year Rok	Size groups of farms (ha) Grupy wielkościowe gospodarstw (ha)					
		< 5.0	5.01-9.99	10.00- -19.99	20.00- -49.99	50.00- -99.99	≥ 100 ha
Dolnośląskie	2009	25.4	16.7	19.5	23.3	12.0	3.1
	2010	14.9	17.7	22.1	25.3	15.5	4.5
Małopolskie	2009	66.5	21.1	6.9	3.1	1.8	0.5
	2010	50.8	30.9	10.0	4.8	2.5	1.0
Zachodniopomorskie	2009	23.1	14.7	16.7	22.1	13.9	9.5
	2010	11.8	16.3	20.7	24.7	16.1	10.2
Mazowieckie	2009	22.9	28.6	24.9	12.2	7.9	3.5
	2010	19.5	29.1	24.9	13.6	8.4	4.5
Poland Polska	2009	33.6	22.2	19.3	14.1	7.2	3.7
	2010	23.7	24.3	22.0	16.5	...	4.5

Source: own research.  
Źródło: badania własne.

Characteristic feature of małopolskie voivodeship, where there was the highest number of organic farms, is that from 50.5 to 66.6% of farms feature less than 5 ha. In the remaining ranges of size there was recorded the increase in farms number. Other voivodeships subjected to examination showed the increase in the number of farms of more than 100 ha, as well as in those from 50 to 100 ha, while the share of farms not exceeding 5 ha of area proved a tendency to decrease.

In Table 4 there are shown developments of organic farms production. They were determined according to the methods by Kopeć [1983]. In four analysed voivodeships

Table 4. Production development in organic farms (%)  
 Tabela 4. Kierunki produkcji w gospodarstwach ekologicznych (%)

Voivodeship Województwo	Organic farms – Gospodarstwa ekologiczne											
	with certificate z certyfikatem				within conversion period bez certyfikatu				total razem			
	Production development – Kierunek produkcji											
	plants roślinna	plants and animals- roślinna i zwierzęca	animals zwierzęca	total razem	plants roślinna	plants and animals- roślinna i zwierzęca	animals zwierzęca	total razem	plants roślinna	plants and animals- roślinna i zwierzęca	animals zwierzęca	total razem
	%			units liczba	%			units liczba	%			units liczba
Dolnośląskie	69.8	30.2	0.0	546	83.2	15.9	0.8	479	76.1	23.5	0.4	1 025
Małopolskie	56.2	40.0	3.8	1 399	84.0	12.0	4.0	796	72.0	24.5	3.8	2 195
Zachodniopomorskie	82.0	18.0	0.0	892	88.0	16.0	0.0	724	83.0	17.0	0.0	1 616
Mazowieckie	74.0	26.0	0.0	1 095	90.0	10.0	0.0	578	82.0	18.0	0.0	1 673

Source: own research.  
 Źródło: badania własne.

the main branch of production is only plant production in differentiated size. In this section we determined production's direction: plants, plants-animals and animals. In the certified voivodeships contribution of plant direction is lower than in farms during conversion. The contribution of plans-animal direction varies 17-24.5%. In the certified farms the contribution of this direction is higher than among the farms during conversion. Contribution of animal direction is very low in farms basing only on ecological production, and most of them are placed in mazowieckie voivodeship.

Within the frames of production types, development of agricultural production in organic farms was determined. In Tables 5 and 6 there were tabled types of crops preferred by organic producers. Although voivodeships subjected to examination showed high diversity in this respect, all of them featured the highest size of organically cultivated fodder crops for animals feed, which include meadows and pastures, perennial grasses for fodder growing on arable land. The share of organic farms characterizing fodder development of production is quite high and ranges 51.1-75.7%. In małopolskie voivodeship organic farmers cultivated in 54.4% potatoes, As far as cereals were concerned, the largest area was used for wheat and oats production. The most popular vegetable species were red beet, cucumber and garlic. Among organic orchard production, dominant species were apple and plum trees. Walnuts, which are granted the highest subsidies, were cultivated in 37 organic farms.

In zachodniopomorskie voivodeship organic farmers showed interest in completely different types of organic production. In about 80% of organic farms grassland and

Table 5. Types of crops in organic farms.  
Tabela 5. Rodzaje upraw w gospodarstwach ekologicznych

Type of crops Rodzaj uprawy	Voivodeship – Województwo							
	małopolskie		zachodnio-pomorskie		dolnośląskie		mazowieckie	
	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%
Wheat – Pszenica	955	43.5	78	4.8	480	46.8	139	8.3
Oats – Owies	508	23.1	255	15.8	160	15.6	376	22.5
Barley – Jęczmień	282	12.8	112	6.9	140	13.7	94	5.6
Other cereals – Inne zboża	407	18.5	193	11.9	200	19.5	382	22.8
Potatoes – Ziemniaki	1 193	54.4	125	7.7	160	15.6	339	20.3
Red beets – Buraki ćwikłowe	36	1.6	0.0	0.0	0.0	0.0	14	0.8
Cucumbers – Ogórki	29	1.3	23	1.4	0.0	0.0	23	1.4
Garlic – Czosnek	49	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Strawberries – Truskawki	83	3.8	0.0	0.0	10	1.0	156	9.3
Perennials for Animals feed Wieloletnie na paszę	241	11	56	3.5	36	35	506	30.0
Grass on arable land Trawy na gruntach ornych	452	20.6	117	7.2	52	49	219	13.1
Remaining fodder plants Pozostałe rośliny pastewne	226	10.3	0.0	0.0	0.0	0.0	24	1.4
Pastures and meadows Pastwiska i łąki	1 122	51.1	1 224	75.7	740	72.2	1 133	67.7
Apple trees – Jabłonie	482	22.0	84	5.2	30	2.9	275	16.4
Plum trees – Śliwy	158	7.2	47	2.9	0.0	0.0	47	2.8
Currents – Porzeczka	229	10.4	110	6.8	22	2.1	140	8.4
Aronia – Aronia	86	3.9	41	2.5	16	1.6	112	6.7
Walnut – Orzech włoski	37	1.7	88	5.4	10	1.0	34	2.0
Total – Razem	2 195	x	1 616	X	1 025	X	1 673	x

Source: own research.  
Źródło: badania własne.

walnuts were most commonly cultivated. In Lower Silesian voivodeship main types of organic production involve cereals and grassland, while in mazowieckie voivodeship grassland, oats, maize and potatoes belong to the most popular ones.

Considering animal production, farmers showed far lesser interest in organic raising and breeding. The only exception seemed to be małopolskie voivodeship, where considerable diversity of production could be observed. Organically kept cows were in 46.7% of farms and products, such as milk, in 35.2% was organically produced. In zachodniopomorskie and Lower Silesian voivodeships organic farms maintain organic raising to a minimum degree (Table 6).

Table 6. Types of organic animal production  
Tabela 6. Rodzaje ekologicznej produkcji zwierzęcej

Type of animals production Rodzaj produkcji zwierzęcej	Voivodeship – Województwo							
	małopolskie		zachodniopomorskie		dolnośląskie		mazowieckie	
	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%	number of farms liczba gospodarstw	%
Calves for slaughter Cielęta przeznaczone na ubój	411	18.7	89	5.5	24	2.3	191	11.4
Remaining calves Pozostałe cielęta	300	13.7	77	4.8	10	1.0	153	9.1
Cattle 1-2 years old Bydło 1-2 letnie	257	11.7	58	3.6	26	2.5	166	9.9
Remaining cattle Pozostałe bydło	158	7.2	98	6.1	40	4.0	114	6.8
Cows – Krowy	1 026	46.7	99	6.1	60	6.0	350	20.9
Butcher hogs – Tuczniki	210	9.6	16	1.0	36	3.5	105	6.3
Sheep – Owce	137	6.2	42	2.6	18	1.8	10	0.1
Goats – Kozy	83	3.8	22	1.4	12	1.2	31	1.9
Hens – Kury	773	35.2	73	4.5	260	25.4	249	14.9
Equines – Koniowate	250	11.4	86	5.3	60	5.9	122	7.3
Milk – Mleko	748	34.1	32	2.0	48	4.7	119	7.1
Eggs – Jaja	212	9.7	26	1.6	60	6.0	81	4.8
Total – Razem	2 195	x	1 616	X	1 025	x	1 673	X

Source: own research.  
Źródło: badania własne.

Table 7 shows differentiation of organic production in Lower Silesian voivodeship, expressed as the number of production types. One type of production, namely grassland, occurred in 44.5% of farms, while two types of production could be found in merely 143 farms. Only one farm offered as many as 27 organic products for market.

Table 7. Types of organic production if Lower Silesian farms in 2010  
 Tabela 7. Rodzaje produkcji ekologicznej w gospodarstwach na Dolnym Śląsku w 2010 roku

Number of production types Liczba rodzajów produkcji	With certificate Z certyfikatem	In the course of conversion W okresie konwersji	Total Razem
1	192	264	456
2	76	67	143
3	59	39	98
4	41	33	74
5	42	22	64
6	24	11	35
7	23	8	31
8	22	13	35
9	17	2	19
10	14	3	17
11	11	11	22
12	4	4	8
13	6	0	6
14	2	1	3
15	1	1	2
16	2	0	2
17	0	0	0
18	2	0	2
19	3	0	3
20	0	0	0
21	1	0	1
22	1	0	1
23	0	0	0
24	0	0	0
25	1	0	1
26	1	0	1
27	1	0	1
28	0	0	0
X	546	479	1 025

Source: own research.  
 Źródło: badania własne.

Home Inspection of Commercial Quality of Agri-Food, in its report on the status of organic farming in Poland in the years 2009-2010 state that in the structure of organic crops prevailing types include meadows, pastures, fodder crops, cereals and orchard production (Table 8) [Raport... 2011].

Table 8. Structure of organic crops in Poland (%)  
Tabela 8. Struktura upraw ekologicznych w Polsce (%)

No Lp.	Specification Wyszczególnienie	Years – Lata	
		2009	2010
1	Cereals – Zboża	21.2	19.6
2	Potatoes – Ziemniaki	0.5	0.4
3	Fodder plants – Rośliny na paszę	13.0	20.6
4	Legumes – Strączkowe	0.5	0.9
5	Industrial – Przemysłowe	0.8	0.7
6	Vegetables – Warzywa	0.9	1.0
7	Meadows and pastures – Łąki i pastwiska	46.1	42.3
8	Orchard production – Uprawy sadownicze	16.1	13.3
9	Remaining groups – Pozostałe uprawy	0.9	1.2
10	Total – Razem	100.0	100.0

Source: Raport... [2011].  
Źródło: Raport... [2011].

Analysing, in spatial aspect, the development of organic farms in districts, it is possible to notice some distortion in districts being capitals of voivodeships. For instance, in the Wrocław district, dynamic increase takes place in the number of organic farms with one type of production (meadows and pastures). Addresses of farm owners point to the city of Wrocław, while, physically, the farms of the mentioned owners exist in other districts. Similar phenomenon was recorded for the Warsaw, Cracow and Szczecin districts.

## SUMMARY

Research on development of organic farms in Poland allows to draw the following conclusions:

1. Organic farms feature dynamic development in Poland, both regarding their number and areas, The highest number of organic farms can be found in Małopolska, while the largest area of organic crops characterizes zachodniopomorskie voivodeship.

2. In voivodeships subjected to examination organic farms were set mainly to plant production and their developments of production involved fodder crops on arable land,

as well as meadows and pastures. The interest on the side of organic farmers in types of plant production was differentiated.

3. Fodder crops, a dominant type in plant production, should be considered as the one following the idea of sustainable development.

## REFERENCES

- Kędzior Z., 2005. Badania rynku, metody zastosowania. PWE, Warszawa.
- Kopeć B., 1983. Metodyka badań ekonomicznych w gospodarstwach rolnych (wybrane zagadnienia). Skrypt AR Wroc. 269.
- Łuczka-Bakuła W., 2007. Rynek żywności ekologicznej. PWE, Warszawa.
- Raport o stanie rolnictwa ekologicznego w Polsce w latach 2009-2010. 2011. IJHARS, Warszawa.
- Runowski H., 2009. Ekonomiczne aspekty ekologicznej produkcji mleka. Roczn. Nauk Roln. Ser. G, 96, 1, 36-51.
- www.organicword.net.statistics [access: 03.2012].

## KIERUNKI PRODUKCJI GOSPODARSTW EKOLOGICZNYCH W POLSCE

**Streszczenie.** Celem opracowania było określenie kierunków produkcji gospodarstw ekologicznych w Polsce. Do badań wybrano cztery województwa: dolnośląskie, małopolskie, mazowieckie i zachodniopomorskie. Badania wykazały, że we wszystkich województwach podstawowym kierunkiem produkcji ekologicznej są uprawy pastewne z trwałymi użytkami i zazwyczaj występuje jeden lub kilka rodzajów produkcji ekologicznej. W województwie małopolskim gospodarstwa ekologiczne dobrze wpisują się w system zrównoważonego rozwoju, a w pozostałych województwach nie ma ścisłego związku produkcji zwierzęcej z uprawami pastewnymi.

**Słowa kluczowe:** kierunki produkcji, gospodarstwa ekologiczne

*Accepted for print – Zaakceptowano do druku: 24.04.2012*

*For citation – Do cytowania: Golinowska M., 2012. Developments of organic farms production in Poland. J. Agribus. Rural Dev. 3(25), 113-123.*