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DYNAMICS OF CHANGES OF ECOLOGICAL FARMS IN THE OSTROŁĘKA AND PRZASNYSZ COUNTIES

DYNAMIKA ZMIAN GOSPODARSTW EKOLOGICZNYCH W POWIECIE OSTROŁĘCKIM I PRZASNYSKIM

Introduction

Farming is one of the most important branches of national economy. The development in the field of the chemistry of fertilizers and pesticides as well as their irrational application causes increasing pollution of the environment. The ecological consciousness of consumers still increases – they seek for products which would be less polluted, "healthier". A response to the market needs is the ecological farming.

According to Runowski[1], "depending on the assumed range, the term 'ecological farming' either concerns the agriculture with strictly defined technology of farming production or exceeds such a narrow definition and additionally encompasses other problems: social, economical, connected to energy, quality of food or, finally, widely understood relations between agriculture and environment".

Sołtysiak formulates a definition: "the ecological farming can be defined as a system which ensures long-lasting soil fertility and healthiness of animals as well as high biological quality of products through stimulation of natural production mechanisms by the application of natural, technologically unprocessed means. It is the ecologically and economically balanced system, to a great extent independent on external outlays, which does not burden the environment and enables the development of country and agriculture as priceless, ageless values in and of themselves"[2].

IFOAM (International Federation of Organic Agriculture Movements) defines the ecological farming as follows: "the ecological farming is a set of various detailed concepts of running of a farm according to demands of soil, plants and animals and its superior goal is the production of high-quality food with

[1] H. Runowski, 1996, *Ograniczenia i szanse rolnictwa ekologicznego*. Wydawnictwo SGGW, Warszawa, p. 23.
[2] U. Sołtysiak, *Rolnictwo ekologiczne – historyczny przegląd metod*, [In:] *Rolnictwo ekologiczne od teorii do praktyki*. Ed. Eadem. Stowarzyszenie Ekoland, Stiftung Leben & Umwelt, Warszawa 1993, p. 24.

maintenance to the greatest extent possible the biological balance in the natural environment"[3].

It is often imputed that the ecological farming is a step back in the civilization development but – as Gaziński says – "the future vision of the agriculture must take three compounds into consideration: the human being, what means something more than just outlays of the human work, essential in the agriculture; the environment which must remain uncontaminated for future generations; as well as the food itself which should satisfy the needs of inhabitants of the Earth. […] The global agriculture needs new solutions, some individual 'third way', other than this what exists now both in poor and rich countries. The contents and ideas contained in the agricultural farming can be of crucial meaning in seeking this way"[4]. Bechmann notes that "from a biological point of view, it [ecological farming] is the most intelligent form of agriculture which we know"[5]. If one considers running a farm, then significant changes can be observed in the agriculture in the current world. "The ecological farming has been recognized in the Western Europe as one of potential solutions, especially in view of the deterioration of the natural environment caused by our current economy"[6].

The term "ecological farming" has been recognized in the legislation of the European Union (EEC 2092/91)[7] as a synonym of considerably older terms "organic farming" and "biological farming" which come from historical names of methods of the agricultural production and were developed independently in various countries but contributed to derive the rules of the ecological farming from them.

"Today, the division of 'alternative' methods according to the authors' names or the terms proposed by them has only a historical meaning since in these separate trends, independently, similar rules of running of a farm have been worked out which currently are generalized as ecological ones"[8].

[3] H. Runowski, op. cit., p. 23.
[4] B. Gaziński, *Kulturowy wymiar rolnictwa ekologicznego*, [In:] *Rolnictwo ekologiczne od teorii do praktyki*. Stowarzyszenie Ekoland, Stiftung Leben & Umwelt, Warszawa 1993, p. 82.
[5] Quoted from: E. Kośmicki, *Tendencje rozwojowe rolnictwa na świecie i w Polsce*, [In:] *Rolnictwo ekologiczne od teorii do praktyki*. Stowarzyszenie Ekoland, Stiftung Leben & Umwelt, Warszawa 1993, p. 42.
[6] J. Buys, J.D. van Mansfelt, *Słowo wstępne*, [In:] *Rolnictwo ekologiczne od teorii do praktyki*. Stowarzyszenie Ekoland, Stiftung Leben & Umwelt, Warszawa 1993, p . 9.
[7] Council Regulation (EC) No. 2092/91 of 24 June 1991.
[8] U. Sołtysiak, op. cit., p. 34.

Aim, scope and method of the investigations

The topic of the ecological farming has already been the subject of interest of numerous researchers. It has been considered in an overview both at national level[9] and at regional one[10]. Possibilities of its development have been analyzed mostly on economical, social and agricultural level[11].

The aim of this work was an analysis of the development of ecological farming in the Ostrołęka and Przasnysz counties (including the city of Ostrołęka), that is the region of Green Kurpie. The analysis has been carried out both in quantitative and spatial perspective. The result of this work is the presentation of a trend of quantitative changes among the certified ecological farms, the farms being in the course of conversion on ecological production of crops and ecological food-processing plants. Additionally, the spatial diversification of districts in the investigated counties on regard of the number of ecological farms is presented.

The thematic scope encompasses the ideas of the ecological farming, the European background, the development of the ecological farming in Poland as well as the dynamics of changes in ecological farms in the investigated region. The research method consisted in a comparative analysis of statistical data concerning the ecological farms in the Ostrołęka and Przasnysz counties at the background of the Mazovian voivodship as well as the whole country. The statistical data have been acquired from the Local Data Bank of the Central Statistical Office of Poland (GUS), field Agriculture, Forestry and Hunting, group Agricultural Farms, whereas the address basis for the year 2016 as well as the archive data for the years 2009–2015 concerning ecological farms in the Mazovian voivodship have been acquired in the Agricultural and Food Quality Inspection (IJHARS).

Ecological farming in the European countries – background

On the beginning of 1980's, the International Federation of Organic Agriculture worked out so-called "Principles of Ecological Farming". Basing on them, the first official regulations of the European Community within the range of the ecological farming were developed. One of the first of them was the Council Regulation (EC) No. 2092/91 of 24 June 1991 on the ecological farming and labelling its products and foodstuffs. In 1999 this directive was supplemented by the regulation Nº 1804/99 of 19 July 1999 which regulated the animal production, a part of the plant production. Nowadays are binding: the Council Regulation (EC)

[9] D. Komorowska, *Perspektywy rozwoju rolnictwa ekologicznego w Polsce*. Zeszyty Naukowe SGGW w Warszawie, Ekonomika i Organizacja Gospodarki Żywnościowej 2008, No. 69, pp. 125–134; K. Jończyk, J. Kuś, *Rozwój rolnictwa ekologicznego w Polsce*. Journal of Research and Application in Agriculture Engineering 2009, Vol. 54.

[10] A. Kuczuk, *Rolnictwo ekologiczne w województwie opolskim – stan obecny, wybrane zagadnienia produkcyjne, możliwości warunkujące rozwój*. Journal of Research and Applications in Agricultural Engineering 2010, Vol. 55, No. 3, pp. 210–218.

[11] T. Nowogrodzka, S. Szarek, *Wyniki ekonomiczne gospodarstw ekologicznych w Polsce*. Zagadnienia Doradztwa Rolniczego 2012, No. 3, pp. 62–72.

No. 834/2007 of 28 June 2007, concerning organic production and labelling of organic products and repealing Regulation (EEC) No. 2092/91 (OJ L 189, 20.07.2007, as amended); the Council Regulation (EC) No. 889/2008 of 5 September 2008, laying down detailed rules for the implementation of Council Regulation (EC) No. 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control (OJ L 250, 18.9.2008, as amended); as well as two implementing regulations.

It is stated in the document "Report on the state of the ecological farming in Poland in the years 2015–2016"[12] that, according to the Eurostat's data, Poland occupied the 6th place in the European Union with regard to ecological agricultural producers (22 277 subjects) as well as the 5th place with regard to the ecologically utilized agricultural area (58 0731 ha).

Ecological farms in Poland

The first so-called alternative farm was established in Greater Poland in the 1930's and operated till the outbreak of the 2nd War World.

After the 2nd War World, in the 1960's, a small biodynamic farm was established in Nakło nad Notecią. First publications concerning the ecological way of farming became to occur only in the 1980's. Organizations and pro-ecological movements started then their existence in Poland. In the middle 1980's, the ecological farming became to be more and more propagated. Courses and lectures took place on biodynamic farming, literature items occurred on the biodynamic cultivation in gardens and allotments.

To become ecological, a farm has to be subjected to an inspection and gain a certificate. If the farmer wants to run his/her farm in ecological way, he/she must prepare, i.e. converse it. The conversion period (under control) lasts two years and only after this time the certificate is granted as a result of positive inspections. A farm or food-processing plant is under control.

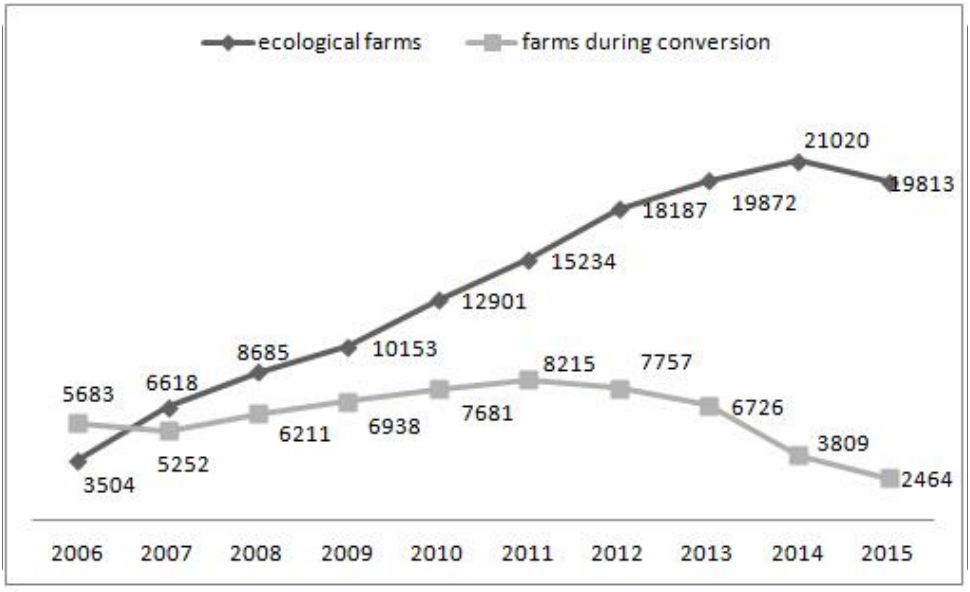
In 2016, 11 subjects dealt with the certification in Poland. The supervision over the certifying units and ecological production is exercised by the Agricultural and Food Quality Inspection (IJHARS) and the certificates are issued by the Ministry of Agriculture and Rural Development.

Since 16 March 2001 Poland has a legal act – Ecological farming law. The currently binding legal base is the Ecological farming law of 25 June 2009 (Dz.U. No. 116 of 2009, item 975 with consolidated text in Dz.U. No. 2017, item 1054).

In 2016 the agricultural area with the ecological production amounted ca. 3.7% of all agricultural area. The development of the ecological agriculture in Poland is connected to a large extent to the financial support acquired from resources of the Rural Development Program (PROW) coming from the European Agricultural Fund for Rural Development and co-financed from the state budget. In the years

[12] Online: http://www.ijhar-s.gov.pl/index.php/raporty-o-ekologii.html [25.10.2017].

2015–2016, the liabilities for the ecological farming were realized within the frames of PROW 2007–2013 and PROW 2014–2020.

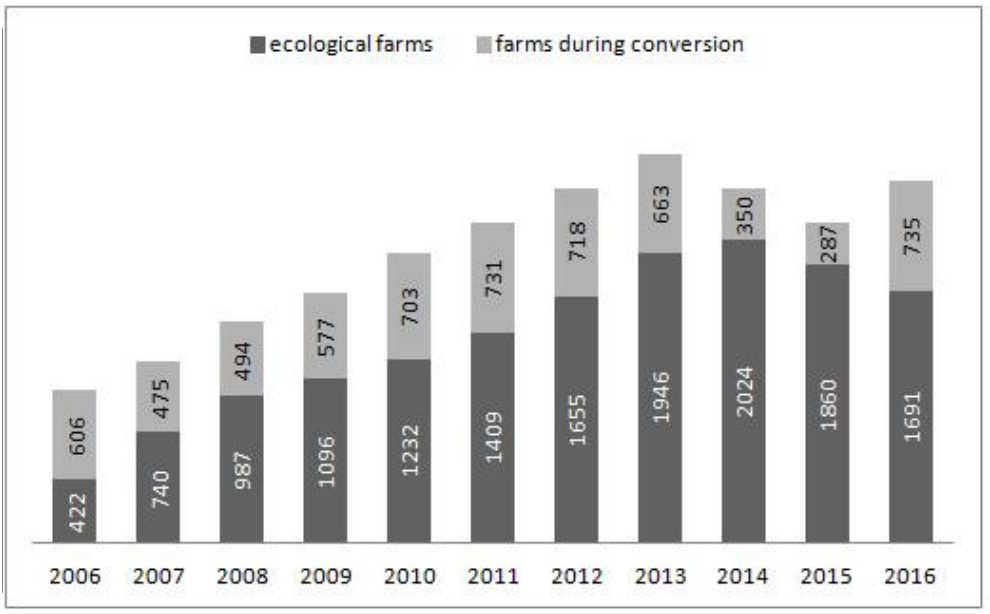


Graph 1.
Number of ecological farms in Poland in the years 2006–2015
Source: Authors on the basis of the Local Data Bank of GUS.

As it results from the statistical data, the number of ecological farms in Poland constantly increased from 2006. The highest number of the ecological farms (21020) was noted in 2014, in the next year the first decrease of the number of the ecological farms was noted. Most ecological farms during conversion were in 2011 and least – in 2015.

Ecological farms in Mazovia

Mazovia is currently the 4th voivodship in Poland on regard of the number of producers (2606) carrying out the ecological farming activity what constitutes 11.1% of total amount of ecological producers in Poland. It must be noted that the number of producers is not identical with the number of ecological farms. One can count among producers also the subjects which carry out the activity concerning preparation of ecological products, launching the ecological products on the market (as well the products imported from third states), supply certified sowable material and vegetative propagating material, deal with apiculture, harvest of natural products, aquaculture and/or seaweeds.



Graph 2.

Number of ecological farms in the Mazovian voivodship in the years 2006–2016

Source: Authors on the basis of the Local Data Bank of GUS and the data on ecological producers acquired from IJHARS.

One can observe the same trend in the Mazovian voivodship as it characterizes the development of the ecological farms in the whole Poland. In 2014, the highest number of the ecological farms was noted (2024), the decrease occurred in 2015–2016. Most ecological farms during conversion were in 2016 and least – in 2015.

Ecological farms in the Ostrołęka and Przasnysz counties

The Ostrołęka county (excluding the city of Ostrołęka) is the largest (2097 km^2) county in the Mazovian voivodship and the 7th on regard of area in Poland. It is relatively poorly urbanized county (3.61%). The Przasnysz county occupies the 82nd place on regard of area in Poland (1219 km^2) and the 9th place in the Mazovian voivodship. The urbanization ratio of the Przasnysz county is 37.35%[13]. Both these counties partly include the Green Forest (Puszcza Zielona or Kurpiowska) with three nature reserves.

Analysis of the spatial distribution of the ecological farms in the Przasnysz county allows to state that they develop best in the districts of Chorzele, where 56 such farms were registered in 2016 (5 in the village Opaleniec), Przasnysz (34 farms) and Jednorożec (22 farms). The ecological farms in the Ostrołęka county

[13] Online: http://www.polskawliczbach.pl/Powiaty [25.10.2017].

develop best in the districts of Goworowo (29 farms), Olszewo-Borki (26), Łyse (18) i Kadzidło (16). It must be noted in addition that some areas of higher density of such farms can be observed in the villages Mostowo (6), Rżaniec (5), Olszewka (5), Opaleniec (5), .Łyse (5), Ludwinowo (4), Durlasy (4), Kadzidło (4). It can prove both advantageous agricultural conditions and social influences of the farmers' circles.

Table 1

Number of ecological farms in the counties of Ostrołęka and Przasnysz counties in 2016

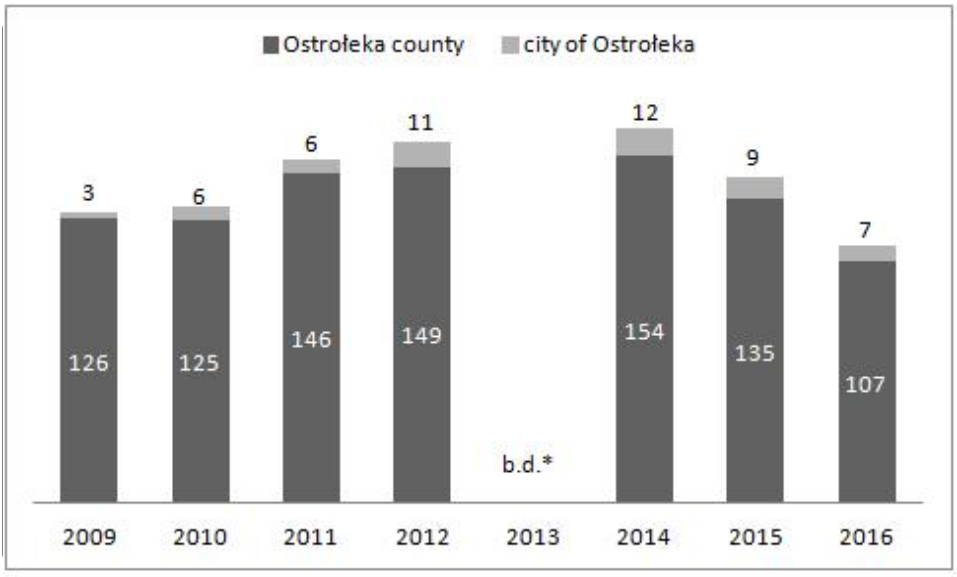
District	Number of ecological farms	Number of farms during conversion
Ostrołęka county including the city of Ostrołęka		
Baranowo	5	1
Czarnia	4	5
Czerwin	4	3
Goworowo	24	5
Kadzidło	15	1
Lelis	9	1
Łyse	10	8
Myszyniec	6	5
Olszewo-Borki	23	3
Rzekuń	4	2
Troszyn	3	5
Ostrołęka	7	0
Przasnysz county		
Chorzele	46	10
Czernice Borowe	5	6
Jednorożec	12	10
Krasne	0	2
Krzynowłoga Mała	1	4
Przasnysz	11	23

Source: Authors on the basis of data on ecological producers acquired from IJHARS.

The number of the ecological farms in the Ostrołęka county increased till 2014. In that year this number amounted 154 – it was the highest in the investigated time period. 19 farms left in 2015 but the number started to increase again in 2016. 7 ecological farms were registered in Ostrołęka but it is probably

just an evidence address of a subject declaring ecological farming, not of an actual activity place.

As regards the Przasnysz county, it can be observed that the number of the ecological farms constantly increases and reaches the value 130 in the year 2016. The data acquired for the Ostrołęka county confirm the trend observed in Poland and the Mazovian voivodship that till a certain limit year the number of the ecological farms increased and then decreased. The peak of the number of the ecological farms in the Ostrołęka county occurred exactly in the same year as in Poland and the Mazovian voivodship, whereas in the Przasnysz county this number still increases. The number of the farms during conversion in the Ostrołęka county (including the city of Ostrołęka) amounted 39, whereas in the Przasnysz county – 55.



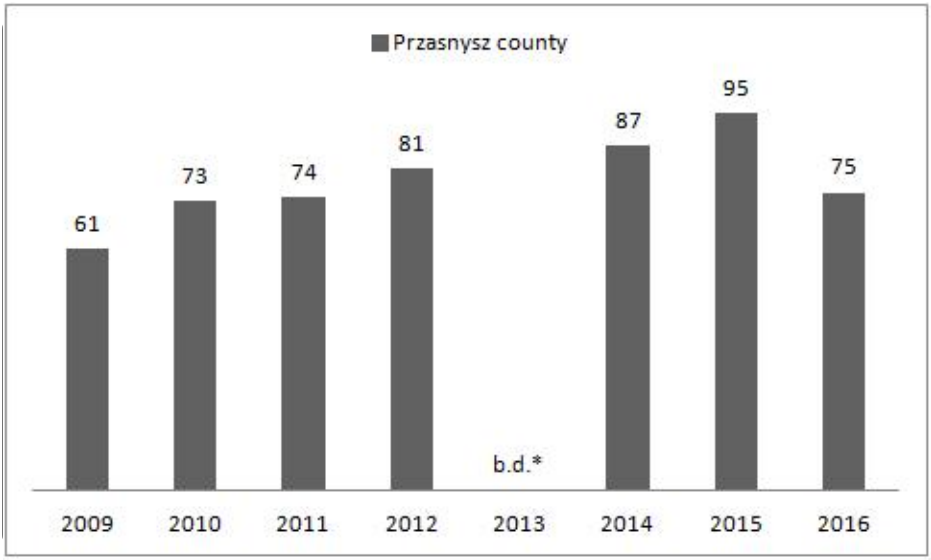
Graph 3.

Number of ecological farms in the county of Ostrołęka and in the city of Ostrołęka in the years 2009–2016

* For the year 2013 proper data from IJHARS were unavailable[14].

Source: Authors on the basis of the Local Data Bank of GUS and the data on ecological producers acquired from IJHARS.

[14] The data from 2013 acquired for the Mazovian voivodship were incomplete and did not allowed to correctly appoint the farms in the discussed counties. Despite this fact, the authors decided to include this year to the analysis of the development trends of the ecological farms in Ostrołęka and Przasnysz counties.

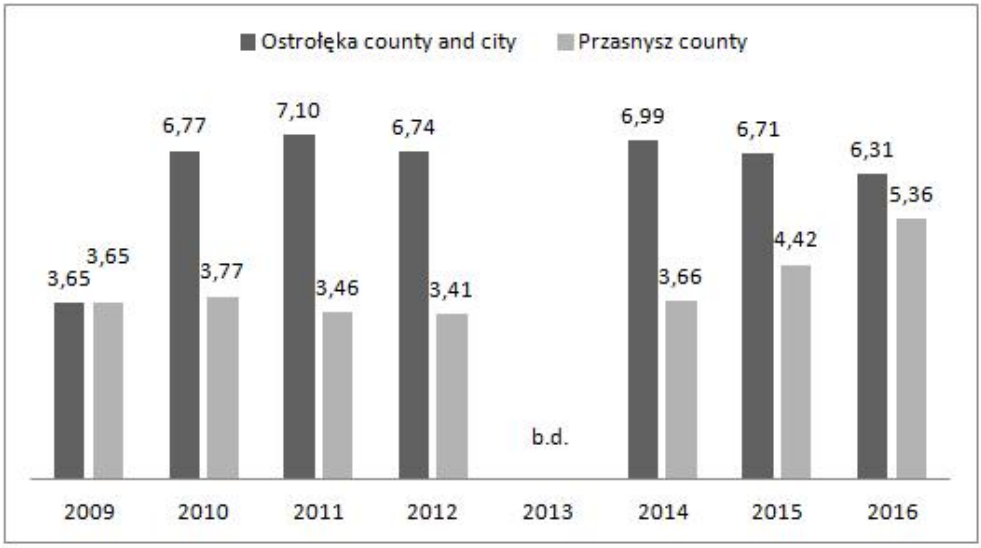


Graph 4.

Number of ecological farms in the county of Przasnysz in the years 2009–2016

* For the year 2013 proper data from IJHARS were unavailable.

Source: Authors on the basis of the Local Data Bank of GUS and the data on ecological producers acquired from IJHARS.



Graph 5.

Percentage share of the ecological farms of the Ostrołęka and Przasnysz counties related to the ecological farms in the Mazovian voivodship in the years 2009–2016.

Source: Authors on the basis of the Local Data Bank of GUS and the data on ecological producers acquired from IJHARS.

The percentage share of the ecological farms of the Ostrołęka county related to the total number of the ecological farms in the Mazovian voivodship amounts 6.9% on average. The highest share can be observed for the year 2009 (7.71%), the lowest – in 2016 (6.31%). The average share of the ecological farms in the Przasnysz county related to the Mazovian voivodship amounts 3.96%. The highest share for the Przasnysz county is observed for the year 2016 (5.36%), the lowest – in 2012 (3.41%). The comparison of the percentage share of the ecological farms in the Ostrołęka and Przasnysz counties in relation to the ecological farms in the Mazovian voivodship (graph 5) with the growth dynamics of the number of the farms in these counties (graphs 3 and 4) allows to state that for the Ostrołęka county this share decreases despite the increase of the absolute number of the farms whereas for the Przasnysz county increases.

An indispensable element of production of crops is their processing. In 2016, only one subject registered the activity of processing of ecological crops in the Przasnysz county. 3 subjects registered such activity in the Ostrołęka county. As results from the data, the number of crop processing plants in the Ostrołęka and Przasnysz counties has not changed since 2015.

According to the declarations, the ecological crop processing in the Ostrołęka and Przasnysz counties consists in the processing and conservation of fruits, milk processing and cheese production. One subject running the processing activity is simultaneously the producer of ecological crops.

Conclusions

For the both analyzed counties in total, least ecological farms were registered in 2009 (190), most – in 2016 (283). It is interesting that the percentage share of the ecological farms in the Ostrołęka and Przasnysz counties in total related to the number of the ecological farms in the Mazovian voivodship amounted 11.36% in 2009 and nowadays it is 11.66%. The share of the ecological farms in the Ostrołęka and Przasnysz counties in total related to the total number of the ecological farms in the whole Poland was 1.07% in 2015. The ecological farms of the Przasnysz county gain importance among the ecological farms in the Mazovian voivodship (increase by 1.7 pp). The share of the ecological farms of the Ostrołęka county among the ecological farms in the Mazovian voivodship decreased from 7.71% in 2009 to 6.31% in 2016. The decrease of the ecological farms can be also observed in the Mazovian voivodship as well as in the whole Poland. Demand for ecologically processed crops is confirmed by the number of processing plants in the Ostrołęka county, not decreasing for the last two years.

The Kurpie region, undoubtedly precious from the environmental and cultural point of view, deserves protection. Ptaszycka-Jackowska stated that the ecological farming on some areas of Poland can become a proper way of their development[15]. Thus, dynamic development of the ecological farms in the Ostrołęka and Przasnysz counties despite the regression observed in Mazovia and Poland gives reasons for pleasure.

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SUMMARY
Ecological farming is one of the forms of agricultural activity. The article describes the changes that occurred in the years 2009–2016 in relation to the number of ecological farms in Ostrołęka and Przasnysz counties. The analysis was done using the statistical data acquired from Central Statistical Office of Poland (GUS) and included in the Local Data Bank as well as the data obtained from the Agricultural and Food Quality Inspection (IJHARS). The conducted research allowed to show trends in the development of ecological farms in the counties of Ostrołęka and Przasnysz at the background of Mazovian voivodship and the whole Poland.

STRESZCZENIE
Rolnictwo ekologiczne jest jedną z form działalności rolniczej. W artykule scharakteryzowano zmiany, jakie zaszły w latach 2009–2016 w odniesieniu do liczby gospodarstw ekologicznych w powiecie ostrołęckim i przasnyskim. Analizę wykonano z wykorzystaniem danych statystycznych GUS, zawartych w BDL-u oraz danych otrzymanych z Inspekcji Jakości Handlowej Artykułów Rolno-Spożywczych. Przeprowadzone badania pozwoliły ukazać tendencje w rozwoju gospodarstw ekologicznych w badanych powiatach na tle województwa mazowieckiego i całej Polski.

Key words: ecological farmstead, ecological farming, Ostrołęka county, Przasnysz county

Słowa kluczowe: gospodarstwo ekologiczne, rolnictwo ekologiczne, powiat ostrołęcki, powiat przasnyski