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Audit of the effectiveness of organic farming development in European countries

Abstract. The article presents the results of the audit of the development of organic production in the EU countries using the example of Poland. It is noted that today Poland is significantly behind the average level in the European Union, where the share of organic land is 8.1%. It has been proven that in order to reach the level of other EU countries by the end of 2030, the average annual rate of growth of organic and transitional lands should be at least +11.2%, and the share of transitional lands in them should be 25.1%. It is noted that the strategic goal of the EU by 2030 is to convert a quarter of all agricultural land into organic. In this case, the average annual rate of growth of the corresponding areas in Poland should be +22.8%, and the share of transitional lands in them should be at least 40.6%. It is calculated that, given the relatively low level of productivity, Poland can achieve this level only through state support and the creation of additional financial incentives.

Keywords: development audit, organic farming, European Union, government support, financial incentives.

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Introduction

Popularizing a healthy lifestyle to increase its duration and quality is one of the key strategic goals of national development in many countries worldwide, including the European Union. This contributes to the gradual transformation of people's consciousness towards consuming safe and environmentally friendly food products, which in turn leads to an increase in demand for organic production that is grown by agricultural enterprises without the use of mineral fertilizers and pesticides. However, the widespread implementation of organic farming is associated with certain technological difficulties and limitations, which makes this research relevant.

Analysis of recent research and publications. The problem of researching the prospects of organic farming has gained wide popularity in various scientific circles. At present, both Polish and Ukrainian scientists are actively involved in this issue. Galat L., Haltsova O., Kushnir S., Belinska Ya., and others [1-3] have studied the processes of the formation of the domestic organic market in Ukraine, trends, and prospects for its development. The attention of these researchers was also focused on the problems of organic farming in general, as well as the place and role of Ukraine in the global context. Studying the factors and incentives for the development of eco-friendly food production in different countries worldwide, Honcharenko N., Kyrylov Yu., Krykunova V., and Kupalova H. emphasized the need for state support for organic plant production in Ukraine [4; 5]. Also, Zinchuk T. draws attention to the need for rapid adaptation of the agricultural sector to the economy in the context of European integration [6].

Results

As for Poland, where active development of organic farming began earlier, the relevant scientific problems have a slightly different direction. Golik D., Źmija D., Jasiński J., Michalska S., and Śpiewak R. see ecological agriculture as the basis for sustainable development of rural areas and communities [7; 8]. In their works, Groszyk J. and Marszałek A. discuss the prospects of this direction of activity

in the context of existing experience and the strategy of the European Union [9; 10]. The aim of the research is to audit the state and prospects of organic farming development in the European Union countries using Poland as an example.

In regards to the countries of the European Union, as of today, the total area of their organic farms is 16.5 million hectares. Spain (2.4 million hectares), France (2.2 million hectares), and Italy (2 million hectares) are the leaders in this regard. The average proportion of organic farmland from the available agricultural land is about 8.1%. According to the EU Biodiversity Strategy for 2030, the goal is to increase this indicator to 25%. Moreover, Austria has already reached 26%, Estonia 22%, and Sweden 20%. Currently, Ukraine lags significantly behind the progress achieved in the EU, although it has significant potential for expanding its activity from a resource perspective. As for Poland, the total area of its territory is 31.3 million hectares, of which agricultural land occupies 18.7 million hectares or 59.9%. At the same time, the area of organic and transitional farmland within its composition, according to data from 2020, was 509.3 thousand hectares or 2.7%. This indicates that the level of organic farming implementation in Polish agriculture significantly lags behind the EU average level. In order to achieve it, Poland needs to additionally increase its organic territories by 1,012.4 thousand hectares or 3.0 times. Therefore, the dynamics of target indicators comes to the fore, Fig. 1.

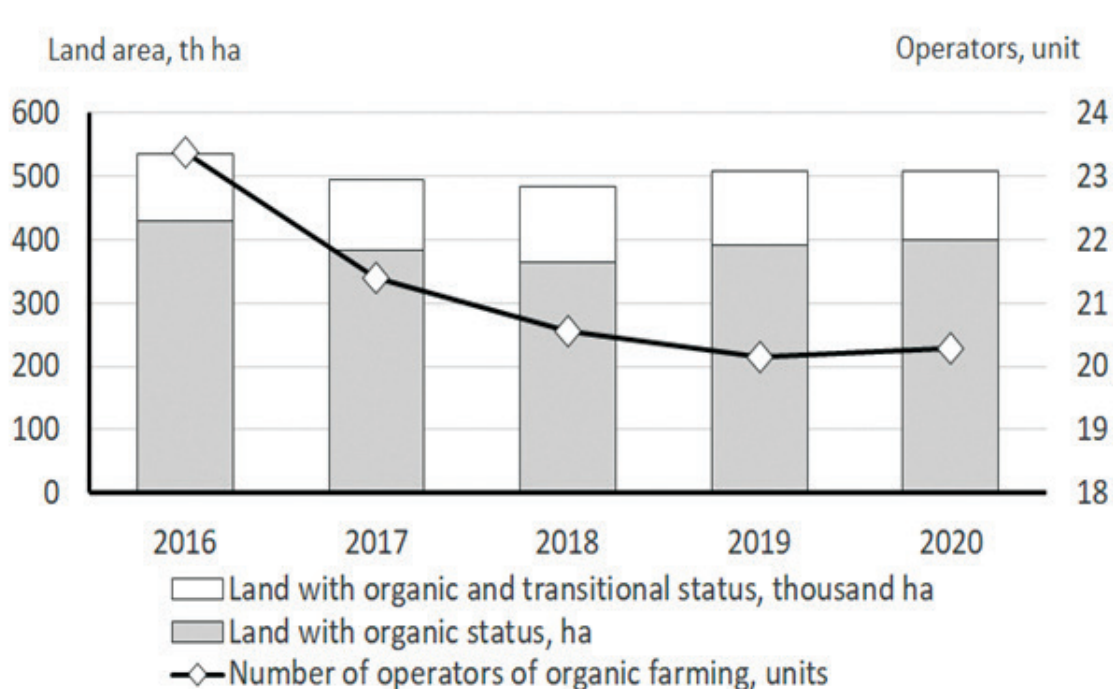


Fig. 1. Dynamics of the area of organic land and the number of organic farming operators in Poland in 2016-2020.

From fig. 1 it can be seen that the area of land with organic and transitional status in Poland in recent years has remained almost constant at an average level of 500-510 thousand hectares. Figure 1 demonstrates that from 2016 to 2020, Poland's transitional lands comprised 25-33% of their total volume, which could have contributed to up to +10% of yearly growth in organic lands. However, this was not the case as these lands were gradually being converted into agricultural land. Table 1 indicates that the degree of organic production varies across different voivodeships.

Table 1. The area of organic and transitional lands in Poland in 2020

Voivodeship	Area of land with organic status, ha	Area of transitional lands, ha	The share of organic and transitional land in the total area of agricultural land, %
1	2	3	4
Dolnośląskie	23,346	7135	2.6%
Kujawsko-Pomorskie	6060	1032	0.6%
Lubelskie	24,579	3778	1.6%
Lubuskie	29,960	13,166	7.6%
Łódzkie	7781	2173	0.8%
Małopolskie	6959	1402	0.9%
Mazowieckie	33,816	7402	1.7%
Opolskie	3005	319	0.6%
Podkarpackie	11,257	1469	1.3%
Podlaskie	42,901	9514	4.3%
Pomorskie	17,849	2943	2.3%
Śląskie	2800	660	0.6%
Świętokrzyskie	7055	1286	1.1%
Warmińsko-Mazurskie	84,984	23,824	8.3%
Wielkopolskie	22,010	7320	1.5%
Zachodniopomorskie	76,490	25,017	9.0%
Total in Poland	400,852	108,439	2.7%

Source: Compiled by the author

Table 1 illustrates that the Zachodniopomorskie, Warmińsko-Mazurskie, and Lubuskie voivodeships had the highest level of business activity in this agricultural sector.

These regions accounted for up to 49.8% of all available organic and transitional lands in the country in 2020, despite only having 16.1% of agricultural land. In comparison to other European Union countries, the particle index in these voivodeships, as shown in column (4) of Table 1, corresponds to the average level. Other voivodeships, such as Kujawsko-Pomorskie, Opolskie, and Śląskie, had a much worse situation.

According to the audit (Table 2) it is apparent that there is no clear leader in all indicators from the perspective of the areas being assessed. Nevertheless, according to the overall ranking, the most favorable situation was observed in voivodeships such as Podlaskie, Świętokrzyskie, and Dolnośląskie. On the other hand, the worst condition was observed in the Śląskie, Kujawsko-Pomorskie, and Lubelskie provinces.

Currently, the development of organic production in Poland is significantly below the average level in the European Union, where the proportion of organic land is 8.1%.

To reach this level by the end of 2030, there needs to be an average annual growth rate of organic and transitional lands of at least +11.2%, with transitional lands making up 25.1% of these lands.

Discussion

Meanwhile, the EU's strategic goal by 2030 is to convert a quarter of all agricultural land into organic, requiring an average annual growth rate of +22.8% for these areas in Poland. However, given the existing trends shown in Figure 1, none of these scenarios seem feasible. Achieving these targets would require state support and the creation of additional financial incentives, given the relatively low level of productivity.

Table 2. The results of audit of voivodships (provinces) in Poland according to the data of 2015-2020

Voivodeships (provinces)	Ranking			
	By cost (expenditures)	By risk	By crop productivity	General
Dolnośląskie	6	7	5	3
Kujawsko-Pomorskie	16	14.5	6	15
Lubelskie	13	7	16	14
Lubuskie	1	13	14	11
Łódzkie	7.5	2	12	6.5
Małopolskie	11	9.5	1	6.5
Mazowieckie	10	9.5	8	10
Opolskie	15	7	3	8
Podkarpackie	14	3	2	5
Podlaskie	2	1	9	1
Pomorskie	9	11	15	13
Śląskie	12	16	10	16
Świętokrzyskie	7.5	4.5	4	2
Warmińsko-Mazurskie	3	4.5	11	4
Wielkopolskie	5	14.5	7	9
Zachodniopomorskie	4	12	13	12

Source: Compiled by the author

Conclusion

The development of organic production in Poland today is significantly behind the average level in the European Union, where the share of organic land is 8.1%. In order to reach this level by the end of 2030, the average annual rate of growth of organic and transitional lands should be at least +11.2%, and the share of transitional lands in them should be 25.1%. At the same time, the strategic goal of the EU by 2030 is to convert a quarter of all agricultural land into organic. In this case, the average annual rate of growth of the corresponding areas in Poland should be +22.8%, and the share of transitional lands in them should be at least 40.6%. As we can see, under the conditions of keeping the existing trends, fig. 2, none of these scenarios will be feasible. Considering the relatively low level of productivity, it can be achieved only through state support and the creation of additional financial incentives

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Еуропа елдерінде органикалық егіншілікті дамыту тиімділігінің аудиті

Аннотация. Мақалада Польша мысалында Еуропалық Одақ елдеріндегі органикалық өндірісті дамыту аудитінің нәтижелері келтірілген. Бүгінгі таңда Польша Еуропалық Одақ бойынша орташа деңгейден едәуір артта қалып отыр, мұнда органикалық жерлердің үлесі 8,1% құрайды. 2030 жылдың соңына қарай Еуропалық Одақтың басқа елдерінің деңгейіне жету үшін органикалық және өтпелі жерлердің орташа жылдық өсу қарқыны кемінде +11,2%, ал олардағы өтпелі жерлердің үлесі – 25,1% болуы керек екендігі дәлелденді. ЕО-ның 2030 жылға дейінгі стратегиялық мақсаты барлық ауылшаруашылық жерлерінің төрттен бірін органикалық жерлерге ауыстыру болып табылады. Бұл жағдайда Польшадағы тиісті аудандардың орташа жылдық өсу қарқыны +22,8%, ал олардағы өтпелі жерлердің үлесі кемінде 40,6% болуы керек. Өнімділіктің салыстырмалы түрде төмен деңгейіне байланысты Польша Бұл деңгейге тек мемлекеттік қолдау және қосымша қаржылық ынталандыру арқылы қол жеткізе алады деп есептеледі.

Түйін сөздер: даму аудиті, органикалық егіншілік, Еуропалық Одақ, мемлекеттік қолдау, қаржылық ынталандыру.

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Аудит эффективности развития органического земледелия в европейских странах

Аннотация. В статье представлены результаты аудита развития органического производства в странах Евросоюза на примере Польши. Отмечено, что на сегодняшний день Польша существенно отстает от среднего уровня по Европейскому Союзу, где доля органических угодий составляет 8,1%. Доказано, что для того чтобы достичь уровня других стран Евросоюза к концу 2030 г., среднегодовые темпы прироста органических и переходных угодий должны составлять не менее +11,2%, а доля переходных угодий в них – 25,1%. Отмечено, что стратегической целью ЕС до 2030 г. является перевод четверти всех сельскохозяйственных земель в состав органических. В таком случае среднегодовые темпы прироста соответствующих площадей в Польше должны составлять +22,8%, а доля переходных угодий в них составлять не менее 40,6%. Просчитано, что

ввиду сравнительно низкого уровня урожайности, достичь Польшей данного уровня можно только путем государственной поддержки и создания дополнительных финансовых стимулов.

Ключевые слова: аудит развития, органическое земледелие, Евросоюз, государственная поддержка, финансовые стимулы.

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