

Organic production in the context of ensuring food security of Ukraine

Produção biológica no contexto da garantia da segurança alimentar da Ucrânia

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Submission: 27/01/2024 | Acceptance: 09/05/2024

ABSTRACT

This review article analyzes the legal regulation of organic production in Ukraine. The steady growth and development of this market are indicated by: 1) an increase in the area of agricultural land allocated for organic production, 2) a rise in the number of domestic organic operators, and 3) the increasing volume of organic product exports to other countries. However, there is a need to implement a set of measures, including: improving legal support, developing the infrastructure of the organic products market, ensuring adequate state support, and enhancing the system of standardization and certification for the production, processing, storage, and transportation of organic products. Additionally, there is a need to introduce an effective system for controlling the sale of organic raw materials, their processing, and the sale of organic products. A fundamental rethinking of the concept of food security in Ukraine is also required, particularly to determine the priority directions for developing agrarian policy under martial law conditions and in the post-war period.

KEYWORDS: organic production; food security; land legal relations; agriculture; land protection.

RESUMO

Este artigo de revisão analisa a regulamentação legal da produção orgânica na Ucrânia. O crescimento constante e o desenvolvimento deste mercado são indicados por: 1) um aumento na área de terras agrícolas destinadas à produção orgânica, 2) um aumento no número de operadores orgânicos domésticos, e 3) o crescente volume de exportação de produtos orgânicos para outros países. No entanto, há a necessidade de implementar um conjunto de medidas, incluindo: melhorar o suporte legal, desenvolver a infraestrutura do mercado de produtos orgânicos, garantir um suporte estatal adequado e aprimorar o sistema de padronização e certificação para a produção, processamento, armazenamento e transporte de produtos orgânicos. Além disso, é necessário introduzir um sistema eficaz de controle da venda de matérias-primas orgânicas, seu processamento e a venda de produtos orgânicos. Também é necessário repensar fundamentalmente o conceito de segurança alimentar na Ucrânia, particularmente para determinar as direções prioritárias para o desenvolvimento da política agrária sob condições de lei marcial e no período pós-guerra.

PALAVRAS-CHAVE: produção orgânica; segurança alimentar; proteção da terra; relações jurídicas fundiárias; agricultura.

INTRODUCTION

Food security is one of the global problems of the world economy in modern conditions. Ensuring food security is one of every country's most important components of public policy. From these positions, it is important to form an effective model of Ukraine's food security, which should aim at creating a competitive food complex with an optimal production structure capable of producing high-quality, competitive products that correspond to the food needs of the country's population and ensure adequate food security.

At the present stage of development of the agricultural sector of the economy, the degree of food and environmental security is significantly determined by alternative technologies in agriculture and the conservation of natural resources in the agricultural sphere. Among such systems, organic agriculture has become one of the most developed. However, despite the application of specific measures by the state and economic entities, Ukrainian organic agriculture and the market of organic agricultural products still need

improvement.

The current situation in this area requires scientific substantiation of ecological and economic mechanisms of development of organic agricultural production; study of growth trends of sown areas occupied by organic production; survey of the main reasons influencing the pace of organic farming; use of Ukraine's potential for growing environmentally friendly products; determination of Ukraine's place among other countries in this area; the feasibility of increasing production volumes and the formation of a civilized domestic market for biological products.

Ukrainian agriculture does not stand aside from world trends. Agricultural producers are increasingly paying attention to the fact that ignoring environmental factors in agriculture undermines the natural resource potential of social production, negatively affects human health, and disturbs the balance in the natural environment. The safety of food and raw materials is one of the main factors that determine the population's health, as about 70% of harmful substances enter our bodies with food (KOBERNYUK 2014). Governments worldwide have taken an active stand to counter this destructive process. Therefore, it became clear that we should consider global and dynamic changes in the world economy, closely linked to the growing demand in many countries for high-quality organic agricultural products. The latter has several economic, environmental, and social benefits compared to traditional production. It serves as a basis of complete human nutrition, which can eliminate risks to their health.

That is why Ukraine must be an active participant in these processes. All the prerequisites for this exist, as the Ukrainian agricultural sector has a wide range of opportunities for developing organic farming, forming the domestic market of organic products, and gaining/maintaining a stable position in the global organic agri-food market.

However, today, the condition of the lands is affected mainly by the conduct of military operations on the territory of Ukraine and the temporary occupation of part of its territory. As a result of such actions, the state of food security in the country has deteriorated significantly (according to the rating developed by The Economist Intelligence Unit) - the country ranks 71st among 113 countries in the Index. However, last year, it was in 58th place. Due to Russian aggression, Ukraine fell by 13 positions. The only indicators that show a better situation are food quality and safety, according to which Ukraine has 71.3 points out of 100. This is the 52nd step of the global rating (THE ECONOMIST 2022).

The deterioration of food security in the country due to the war is caused by destroyed logistics chains and infrastructure, destroyed farms and factories, a decrease in the amount of food produced at working enterprises, and an increase in basic food needs in the most affected regions of the country. The aggression of the Russian Federation against Ukraine significantly affected the state of food security in Ukraine. In addition, according to HUMAN RIGHTS WATCH (2022), the Russian invasion of Ukraine has already exacerbated the food crisis in the Middle East and North Africa.

MATERIAL AND METHODS

The study's methodological basis is a set of philosophical (materialist dialectics), general scientific (complex analysis and synthesis), and special legal (logical-legal, formal-legal) methods of scientific cognition.

The method of materialist dialectics, also used by IRTYSHCHEVA et al. (2023) as well as BLIZKOVSKY & EMELIN (2020), allowed for consideration of agrarian relations for the creation of organic agricultural products in their development and the relationship with normative regulation. The method of complex analysis, the same as HVOZD (2019), was used primarily to study the features of the norms of various branches of law in determining the place and role of legal regulation of organic production in the system of Ukrainian law. The synthesis method was recommended by KLITNA & BRYZHAN (2013) in their research, and it helped to identify obstacles and prospects for the development of Ukrainian organic production. The application of the logical-legal method, also used in the article by OSTAPENKO et al. (2020), contributed to the further formation of the conceptual apparatus of research, particularly the legal construction of "organic agriculture". The formal-legal method made it possible to reveal the content of normative prescriptions in the sphere of organic production (LUTZ 2022, PSUTURI 2023). As was used by AYUYA (2019) and KUCHER et al. (2019), the economic-statistical method is for clarifying and summarizing the trends and patterns of the dynamics of meeting the consumer demand of the population and increasing the ecological and economic efficiency of the use of natural resources in order to ensure food security. The

modeling method was used to construct and modify legal norms proposed to amend the current legislation. The named method was also used in the works of TSYLYURIK (2017) and WILIER & LERNOUD (2019).

During the research, the works of Ukrainian and international scientists in the area of legal regulation of agricultural production and organic farming were used. Attention has been paid to Ukraine's legislation and international agreements in agricultural output. In addition, the materials from the Cabinet of Ministers of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine (2015), the State Statistics Service of Ukraine, the International Federation of Organic Agriculture (IFOAM), the Federation of Organic Movement of Ukraine, the Research Institute of Organic Agriculture (German: Forschungsinstitut für biologischen Landbau, in short: FiBL) have been used.

An important role was played during the research by the systematic research method. It helped to systematize the process of searching for information from different sources. They have already used this method has been used in the co-authors' article earlier (FEDCHYSHYN et al. 2022). This method is aimed at considering the publications on a particular issue. The search for scientific articles included the definition of databases. The articles were accessed through such search platforms as SCOPUS®, Web of Science®, Google Academic®, Index Copernicus®. The search criteria in all the databases were settled for the years between 2013 and 2024, using the keywords: "agriculture", "organic production", and "post-war recovery".

Further, the search was widened to the combinations of these words, for example: "government support for organic producers", "organic land plots" and "agricultural organic production" and other related terms. As a result, there were 79 articles found. To understand the content of the articles, their abstracts were read. Those not corresponding to the scope of this study were excluded. As such, 32 articles were selected, as they met the initial criteria and were read in full. In the final selection, literature reviews were also excluded.

The empirical basis of the research also included legislation not of Ukraine as well as other countries on the production and marketing of organic products. These methods' integrated use helped ensure complete, objective, and comprehensive research.

RESULTS AND DISCUSSION

Undertaking the food security in the conditions of martial law and in the post-war period

Studying the legal mechanism for ensuring food security of Ukraine and the development of proposals for improving relations in this area are extremely necessary. In conditions of peace and stability, Ukraine was one of the world leaders among exporters of agricultural products and a guarantor of food security in the world. At the same time, the full-scale military aggression of the Russian Federation on the territory of Ukraine endangered not only the internal food security of the state, but also blocked the participation of Ukraine in the supply of previously produced agricultural products through the international seaports of the Black Sea. Thus, force majeure circumstances were actually created regarding the Ukrainian side's execution of grain export agreements.

In the future, this could become a real threat to the food crisis in several countries and undermine Ukraine's food independence. In this context, the issue of analyzing national and international legal norms is relevant. In particular, international agreements aim to regulate social relations in food security, identify and fill existing legal gaps, forecast the situation's development, and search for legal instruments and ways out of crisis situations with food supply that may arise in this area. Implementing the 17 Sustainable Development Goals, announced in the resolution "Transforming our world: the 2030 Agenda for Sustainable Development", approved at the Summit of the 70th session of the UN General Assembly in New York, also strengthens the relevance of research.

The second goal of the resolution is one of the key dominants of ensuring the sustainable development of the agricultural sector. Its achievement will allow to overcome hunger, ensure food security, improve the quantity, nutrition, and quality of food, and contribute to the sustainable development of agriculture (UN GENERAL ASSEMBLY 2016). Obtaining Ukraine the status of candidate for membership of the European Union on June 23, 2022, should speed up the adaptation of national legal norms in food safety to EU legislation. It also imposes additional obligations on the state regarding the adaptation of domestic legislation, particularly in food safety and sustainable development policy.

According to a preliminary estimate by the FAO, direct losses of agricultural assets due to the war in Ukraine may reach 6.5 billion USD. Figure 1 shows a diagram of the direct losses and sectors. Currently, about 5% of agricultural land is damaged.



Figure 1. Losses due to Russian aggression.

There is an increase in the cost of production due to the rise in the prices of fertilizers, fuel, and seeds. Considerable land areas are dangerous for production activities due to damage and mining. Infrastructure objects (agricultural, warehouse, transport, energy, processing industry) are significantly destroyed. In addition, some challenges were not overcome before the invasion began: the difficulty of connecting to utility networks; protective barriers when agricultural products enter the markets of other countries; unfinished adaptation of legislation in the field of safety; veterinary and phytosanitary control according to the standards of the European Union; problems with blocking tax invoices; inadequacy of capacities for transshipment and delivery of agricultural products to the growing needs of agricultural producers.

As a result of Russian shelling in Ukraine, 2.9 million hectares of forests were destroyed (STATE FOREST RESOURCES AGENCY OF UKRAINE 2023), which, along with other natural resources, also required restoration in the post-war period. In turn, in the territories liberated from the enemy, large areas of agricultural land were mined and littered with remnants of damaged military equipment, exploded artillery shells, cruise missiles, downed airplanes and helicopters, and chemicals and other substances.

Violent conflicts constitute additional “shocks” that affect these populations' livelihoods and well-being and the overall food system (KEMMERLING et al. 2022). Accordingly, the state of food security in Ukraine has worsened. Food supply was disrupted in the temporarily occupied territories and in regions where food supplies stopped due to hostilities. In addition, the range of food products and, to some extent, their quality have deteriorated somewhat. The UN included Ukraine in the twenty world countries threatened by famine (AGROPORAL 2022).

The current Russia-Ukraine war is having a negative impact on the food supply chain, causing energy, food, and environmental challenges throughout the EU and the United States in particular (FERNANDEZ-LOPEZ et al. 2022). The lack of agricultural products supplies from Ukraine was also felt by the developed countries of Europe. Thus, in the United Kingdom, some retail chains began to limit the sale of sunflower oil “in one hand” precisely because of the violation of its supplies from Ukraine (BBC 2022). Moreover, European farmers began buying more genetically modified livestock feed in the United States and South America. This is due to the invasion of the Russian Federation because the supply of corn from Ukraine, which does not contain genetically modified organisms, was stopped (BLOOMBERG 2022). This means that due to the global food crisis caused by Russian aggression, EU countries are forced to retreat from the high environmental and food standards they have achieved over the past decade.

At the same time, in those countries of the world whose food well-being is ensured mainly or entirely due to the import of agricultural products, the aggravation of the food problem is significant. In some of these countries, it has reached a critical level. According to the calculations of the American political scientist and geoeconomist Peter Zeihan (ZEIHAN 2022), this year, almost 0.5 billion people will suffer from malnutrition, and next year this figure will triple. As UN Secretary-General Antonio Guterres (GUTERRES 2022) noted, the war in Ukraine could throw more than 1/5 of humanity into poverty, destitution & hunger on a scale not

seen in decades. First of all, the war threatens millions of people in Africa and the Middle East with malnutrition and starvation.

Thus, the Russian aggression against Ukraine at the beginning of 2022 became a global test for food security not only for Ukraine but also for the whole world. In addition, this aggression could cause political instability in dozens of countries.

According to updated UN forecasts for the number of malnourished people, 670 million people will suffer from malnutrition in 2030. Another crisis is brewing, which may affect the global dynamics of food security. Not every country can guarantee food security on its own, but with the support of countries whose agricultural potential allows for providing food products not only to their own citizens but also to a surplus of such products. In particular, such a country is Ukraine, which acts as one of the guarantors of food security in the world. However, taking into account the negative consequences of the destruction of the agro-industrial infrastructure caused by the military actions of the Russian Federation, the state of Ukraine, first of all, must ensure internal food security.

To prevent food shortages, ensuring food independence is crucial. The first priority in this context is increasing agricultural production. The use and conservation of land, as the primary natural resource for meeting agricultural needs, are of great importance. It is also essential to consider different regions' natural and climatic features. This involves clear legal regulation of the location and development of crop and livestock farming and the establishment of legal mechanisms for the preservation and restoration of natural resources essential for these activities. Additionally, state support for relevant agribusiness entities is necessary. Therefore, there is an urgent need for scientific research based on natural laws. This research will help to: identify and establish criteria for determining the suitability of agricultural land for production; resolve legislative issues related to soil preservation and fertility protection; and develop and approve quality standards that meet the requirements for growing plant-based products, among other objectives.

The methodological component of the strategic development programs of the agrarian sector of the economy of Ukraine before martial law was based on the toolkit of management of the agrarian industry in the USA, EU, and other countries (Figure 2).

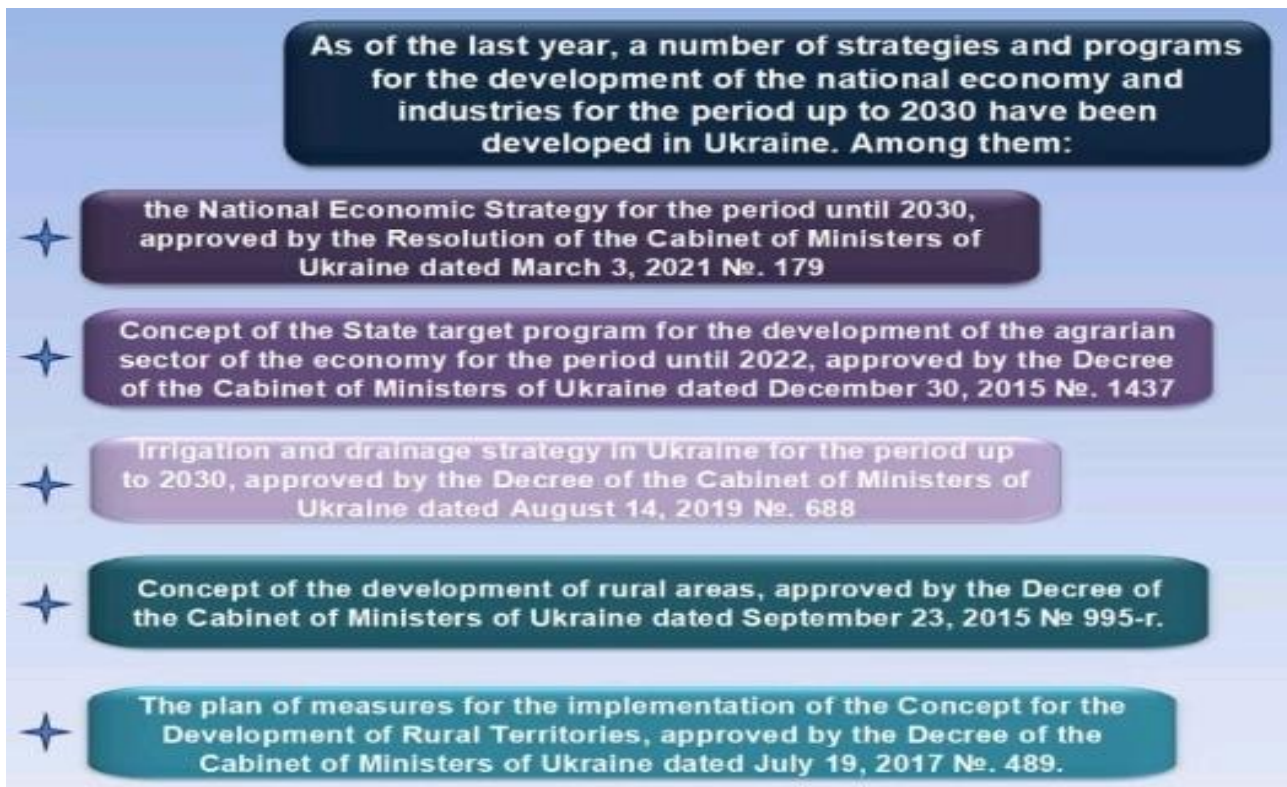


Figure 2. Strategies and programs for the development of agricultural production.

According to the forecast indicators of these programs, in peacetime, the Ukrainian agricultural sector could continue to have a significant impact on the food supply of the world's population. In the context of the

growth of Ukraine's general international image, the agricultural sector's role is very important. According to experts' calculations, the agro-industrial complex's share in the overall GDP structure by 2030 could increase from the current 20 billion USD to almost 80 billion USD. The industry's total exports will increase three times to more than 50 billion USD, which will significantly strengthen the foreign exchange capabilities of the National Bank of Ukraine.

Before the beginning of the Russian aggression, Ukraine was one of the world's largest producers and exporters of grains, legumes, and processed products, and it was consistently among the top 5 global exporters of these. Figure 3 shows the role of the country in the international agricultural market.

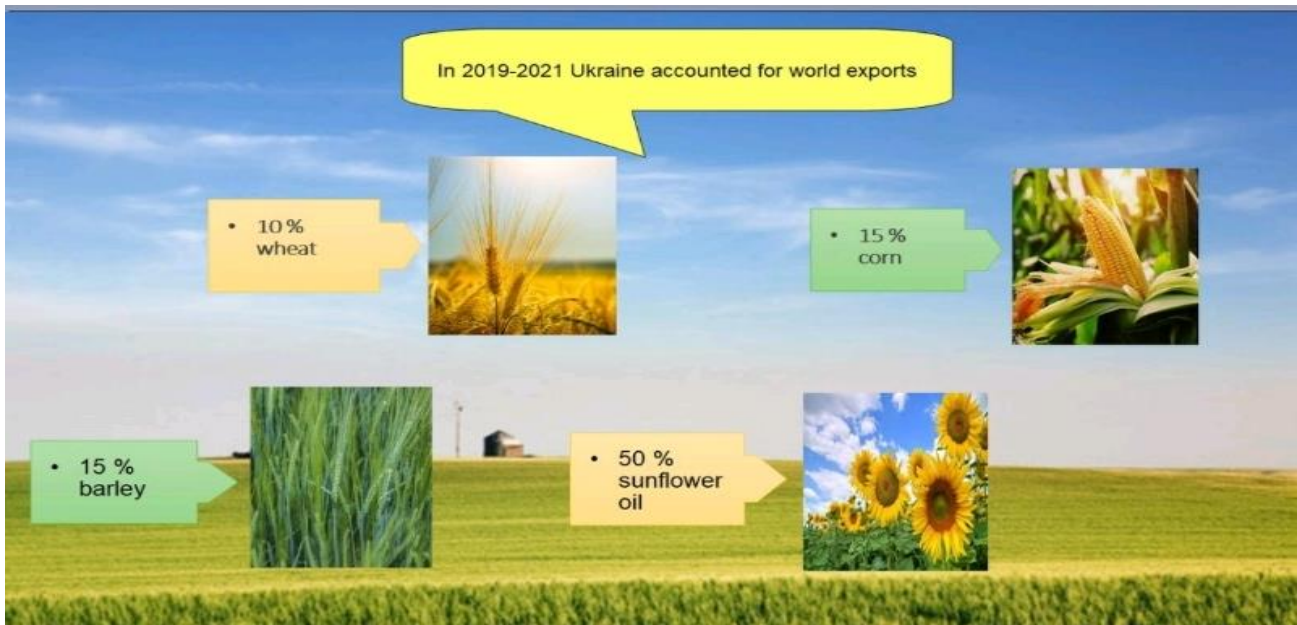


Figure 3. Role of Ukraine in global agricultural market.

Due to the Russian military blocking the export of agricultural products and the threat of disrupting this year's sowing campaign, prices on the world food market have risen sharply. This creates not only the risks of undermining the development of the national agro-industrial sector, but also the prerequisites for the hunger of hundreds of millions of people worldwide, especially in Asia and Africa. In addition, those sectors of the world economy that are naturally closely related to agriculture were under threat, which led to the rapid development of inflationary processes in world markets.

On May 24, 2018, the United Nations (UN) Security Council unanimously passed a resolution condemning the use of food insecurity and starvation as a tactic of war. It was the first time the Council had ever addressed the issue, acknowledging a threat to the lives of tens of millions of people. Aimed at countries currently engaged in international or civil wars, the resolution implores all parties to leave food stocks, farms, markets, and other distribution mechanisms intact. It demands parties in conflict permit humanitarian aid workers unimpeded access to populations in dire need and states that "using starvation of civilians as a method of warfare may constitute a war crime." (NATIONAL GEOGRAPHIC 2022).

For Ukraine, the problem of food security is also becoming particularly acute, which is connected with a number of circumstances caused by the full-scale invasion of Russia against Ukraine. The latter includes forced reduction of cultivated areas; not every sown area can be harvested; destruction of agricultural machinery of farmers; impossibility to sell the harvested crop or lack of normal conditions for its storage; destruction and theft of agricultural products; logistical problems; causing colossal damage to the surrounding natural environment; decrease in the purchasing power of the population, etc.

The country's life in war conditions requires quick response measures by the rule makers aimed at the proper legal regulation of social relations in accordance with the realities. During the first year of the war, the parliament adopted a number of important agrarian laws to facilitate the activities of agricultural producers in the conditions of hostilities. The key topics of these laws are ensuring food security, regulation of land relations (land lease, registration of property rights, etc.), production of agricultural products, etc.

One of the most terrible moments of the war was the destruction of the Kakhovka dam in 2023, which resulted in the flooding of large areas in the agricultural regions of the country (Kherson and Zaporizhzhia regions). However, it is worth emphasizing that the problem is not only flooding but also the violation of reclamation processes in these regions because the latter began to turn into a desert.

To overcome the negative consequences, the Cabinet of Ministers of Ukraine adopted Resolution No. 286 of March 12, 2024 "On prevention of non-target use of lands occupied by the Kakhovka water reservoir", developed by the State Geocadastr. The resolution entered into force on March 16, 2024.

The resolution stipulates that during the period of martial law and for five years after its termination or cancellation, it is prohibited to form, transfer ownership or use, and change the purpose of land plots on the lands occupied by the Kakhovka water reservoir, except for the transfer to use, change of purpose of land plots with the aim of further restoration of the Kakhovka water reservoir and construction of hydro-technical facilities.

However, legal regulation in this area should also be aimed at preserving and developing the integration of the human environment, natural and cultural heritage, communal and social infrastructure, economic development and improvement of standards and quality of life, rational management of renewable energy, and clean technologies. It is necessary to improve conditions for sustainable development through increased investment, the definition of development plans, the protection of the environment, the rational use of available resources, and the increasing awareness and responsibility of current generations. At the same time, there is a need to deepen scientific, systematic research on promising directions for the development of relations in the field of food security of the state. Emphasis should also be placed on the strategic importance of cooperation between Ukraine and the EU in promoting modern and sustainable agricultural production. The need to protect the environment and animals should be taken into account, particularly the spread of organic production methods and the use of biotechnology through the implementation of best practices in these areas.

Obtaining candidate status of EU membership, active European integration, and the prospect of being a full member of the EU create new challenges for Ukraine in terms of compliance with domestic EU legislation. The EU legislation establishes quite clear requirements for producers of organic agricultural products, the procedure for carrying out activities in this area, as well as specific measures aimed at its development and support of business entities that provide the population of European countries with such products (GAFUROVA & MARCHENKO 2019).

It should be noted that from January 1, 2022, the new Regulation of the European Parliament and Council No. 2018/848 (EU 2018) on organic production and labeling of organic products came into force in the EU. It is aimed at revising and strengthening European Union rules on organic production and labeling of organic products in relation to: management system; trade regime; production rules. Thus, it aims to create a level playing field for operators; harmonize and simplify rules; and increase consumer confidence in organic products and the EU organic logo. It harmonizes the rules applicable to organic operators in EU member states and non-EU countries, particularly Ukraine, thereby providing for mandatory compliance with domestic legislation in force in the EU.

State support for producers of organic agricultural products is considered particularly relevant today. In our opinion, its volume is insufficient, considering the difficult conditions during hostilities.

According to the figures presented at Biofach (the world's leading trade fair for the organic sector) the area under organic cultivation in Ukraine declined around 38 percent. In 2022 it was just over 263,000 ha compared to 422,299 ha the previous year (2021). Moreover, Domestic consumption of organic products fell by 52 percent in 2022 compared to 2021 due to the war (EISENRING 2024).

It is important to foresee state support programs in organic production and the regulation of the procedures for their provision. The support is actively provided in the form of grant programs, among which we mention "Support of the organic sector in Ukraine", initiated by the "Organic Initiative" association. According to it, priority is given to micro, small, and medium-sized enterprises and small producers whose areas are located in the territory of Zhytomyr, Kyiv, Chernihiv, Kharkiv, and Sumy regions, which were occupied during the first months. The main goal of this stage is to support and preserve operators of the organic market: producers of organic products, processors, and manufacturers of plant protection products (ORGANIC. INFO 2022).

Thus, moving in the direction of European integration, focusing on ensuring food security, it is necessary to pay attention to the issue of continuing the harmonization of domestic legislation in the field of

organic production, to strengthen state support for organic market operators, to determine the procedure for using funds from the state budget for state support of producers of organic agricultural products.

Legal regulation of organic production in Ukraine before the war.

The prospects of Ukraine as a country of organic farming are simply incredible. Due to the much lower use of agrochemicals in Ukraine, compared to Western European and other developed countries, the products obtained in domestic fields are much cleaner (with fewer pesticide residues) than in Western countries (SAYKO 2010).

In addition, global trends in agriculture confirm that its future lies in biotechnology, which is embodied, in particular, in organic crop production. In fact, scientists give such estimates of organic farming. According to experts, organic agriculture is a balanced system of agricultural production carried out by certified economic entities with the maximum use of biological factors to increase agro-technological productivity, providing environmentally, socially, and economically efficient and transparent agricultural production to meet the needs of the market (MILOVANOV 2018). In the legal literature, there is an opinion that organic farming as a legal category should be understood as an agricultural activity. The latter includes a system of cultivation of certified agricultural land used for producing organic products of plant origin and provides for the use of such methods, principles, and rules of cultivation of such products. Such activity is regulated by Ukrainian legislation and national and ratified by Ukraine's international standards of organic production (CYRYULIK 2019).

The normative definition of the concept of organic production is contained in special legislation. In Article 1 of the Law of Ukraine "On basic principles and requirements for organic production, circulation and labeling of organic products" organic production is a certified activity related to the production of agricultural products, including all stages of the technological process, namely primary production (including harvesting), preparation, processing, mixing and related procedures, filling, packaging, processing, recovery and other changes in the state of production), which is carried out in compliance with the legislation in the field of organic production, circulation and labeling of organic products (VERKHOVNA RADA OF UKRAINE 2018).

Organic food is made from organic agricultural products. In turn, organic farming is based on applying minimal tillage and rejecting pesticides and fertilizers. This approach restores the balance of nutrients in the soil, normalizes the work of living organisms, increases the humus content and, as a result, increases crop yields (KOBETS 2004).

Organic are those products that have been manufactured in compliance with certain environmental standards at all technological and implementation stages. In the process of production of organic products, technologies for maximum preservation of nutrients are used. Using flavors, colorings, preservatives, and genetically modified organisms is completely forbidden. Refining, mineralization and other technological operations that reduce the nutritional properties of the product are also prohibited. In addition, materials for packaging organic products are made from natural raw materials (INTERNATIONAL FINANCE CORPORATION 2005).

Thus, modern organic production aims to provide consumers with safe and high-quality food products that clearly differ from inorganic foods in the degree of safety and usefulness for human health.

Currently, the global market for organic products is one of the most dynamically developing. It was predicted that by 2025, the volume of the market for organic products can range from 15% to 20% of the world market for agricultural products (IDSMBEE 2019).

The organic product trends in the world market were also reflected in Ukraine. Thus, in 2014 the Law of Ukraine "On production and circulation of organic agricultural products and raw materials," came into force, and organic production began to develop more actively. As a result, in 2016, the domestic market of organic products in Ukraine grew by 17.6%. This indicated that more and more agricultural producers were switching to cultivating safe products. As of 2016, the area of certified agricultural land in Ukraine involved in the cultivation of organic products was 381.2 thousand hectares (0.9% of the total area of agricultural land in Ukraine), of which 91.6 thousand hectares were in the transition period.

On July 10, 2018, the Verkhovna Rada of Ukraine adopted the Law of Ukraine "On Basic Principles and Requirements for Organic Production, Circulation and Labeling of Organic Products", which guarantees all consumers confidence in the conformity of products labeled as organic, helps protect market operators from unfair competition, provides transparent conditions for doing business in the field of production and circulation of organic products (Figure 4).



Figure 4. Leaders in the area of organic land in Ukraine (ORGANIC UKRAINE 2018).

In general, Ukraine ranked 20th in the world and 11th in Europe in agricultural land under organic production. Before the Russian invasion, Ukraine sold such products to more than 40 countries, primarily European such as the Netherlands, Germany, Great Britain, Italy, Austria, Poland, Switzerland, Belgium, the Czech Republic, Bulgaria, and Hungary. The share of such products and raw materials for export was 80% (BILOUSOVA 2019). Thus, the figures show that Ukraine has become a state of organic farming.

Positive dynamics could be seen in the number of farms engaged in organic production. In 2002, there were 31 organic farms. Since then, their number has been growing steadily, and according to the Federation of Organic Movement of Ukraine, as of the end of 2018 in Ukraine, there were more than 390 certified organic farms ranging in size from several hectares, as in most European countries, to several thousand hectares of arable land (MELNYK 2017). As of 2019, there were already 617 operators of organic production in Ukraine (BEREZOVSKA 2019). Thus, organic agricultural production was a popular and profitable activity. So, many representatives of agrarian businesses in Ukraine started to engage in it.

One of the main reasons for such rapid growth can be considered an increase in demand for organic products, which have higher safety and quality compared to traditional agricultural products. According to experts, organic products are more valuable than conventional analogs; for example, 70% more vitamins, antioxidants, and polyunsaturated fatty acids are present in organic milk. In addition, organic farms generate 30% less greenhouse gas emissions than conventional farms, polluting the atmosphere less (KABLUCHKA 2016).

The state must take the main steps to intensify the organic movement. At the same time, individual producers need to take measures to maintain the image of organicity and sustainable development through the introduction of innovative technologies, ensuring further growth of organic production from its own raw materials, organization of sales cooperatives, control, and accounting in accordance with European standards (FEDCHYSHYN et al. 2022).

After the end of the hostilities, Ukrainian agricultural producers will have all the prerequisites for organic production: long-term agricultural traditions, significant land resources, and low use of synthetic fertilizers and other chemicals. In this regard, we believe that developing domestic brands of organic certified products, their promotion on the national market, and exports to other countries will be strategically important tasks.

This fact can be of interest in Ukrainian land, including from foreign investors. They can be attracted by the unique ratio of the following favorable conditions for agricultural development: (1) low cost of labor; (2) low rent for land; (3) the possibilities of obtaining subsidies from the state budget for the development of the agrarian sector; (4) the possibility of accumulation of large land masses through the conclusion of agreements on land (leasing, emphyteusis, joint activity) (FEDCHYSHYN et al. 2020).

In many cases, the initiative of the transition of Ukrainian farms to the principles of organic farming can be associated with their cooperation with various international projects aimed at producing organic products

in Ukraine. Farms that choose this area can receive technical and other assistance from international donor organizations and cooperate with foreign companies.

The long-standing collaboration between the Swiss and German projects and other national and international partners from the EU, the US, and Canada has supported Ukrainian public and private actors in strengthening Ukraine's organic sector (FiBL 2024). Figure 5 highlights the most significant support received from international institutions.



Figure 5. International support of organic producers of Ukraine.

Legal prospects for the development of Ukrainian organic production

Land is the most valuable natural resource, and the main component of any country is national wealth (HMYRIA et al. 2019). With its significant potential in increasing the land area suitable for organic production and the availability of labor resources in rural areas, Ukraine can occupy its niche in world markets for organic food and thus give a new impetus to agricultural development.

In this regard, after the hostilities end, the state must take timely and comprehensive decisions in determining the range of organic products and forming state support mechanisms for agriculture focused on producing and promoting organic products in domestic and foreign markets.

Some steps in this direction have already been taken. Since 2023, the Ukrainian organic legislation has been fully implemented. Last year, with the support of international projects focused on technical assistance to Ukraine, important milestones were reached: the accreditation of Ukraine's first organic certification body, "Organic Standard" and the publication of two state registers of organic certification bodies and organic operators. More than 160 organic operators are already certified according to the Ukrainian organic law (in addition to EU organic regulations), and organic products labeled with Ukraine's organic logo are available (FiBL 2024).

However, in Ukraine, organic farming could develop more successfully if a balanced state organic policy is pursued. Implementing such a policy is dictated by the need to fulfill Ukraine's international obligations, particularly the ASSOCIATION AGREEMENT BETWEEN UKRAINE AND THE EUROPEAN UNION (2014). Issues of agricultural development are defined in Chapter 17 "Agriculture and Rural Development" of this Agreement, which, in particular, states that the parties cooperate to promote the development of agriculture and rural areas, in particular through the gradual convergence of policies and legislation (Article 403). Such cooperation should include promoting modern and sustainable agricultural production, considering the need to protect the environment and animals, particularly the dissemination of

organic production methods and the use of biotechnology, including through the implementation of best practices in these areas (Article 404).

Developing organic production in rural areas should be one of the priorities. As a joyous moment, we can consider the adopted law of Ukraine, which states, "On basic principles and requirements for organic production, circulation and labeling of organic products" (2018). This law aimed to improve the legal regulation of organic production, circulation, and labeling of organic products and promote equalization with the EU in this area. It should be noted that before the Russian invasion, the Ministry of Economy, Trade and Agriculture of Ukraine, together with all players of the organic market, was actively working on the development of bylaws that could allow this law to work in full force and would guarantee the formation of clear and transparent rules of the market of organic products.

The Federation of Organic Movement of Ukraine, the International Public Association of Organic Production Participants, the Organic Production Club, the Union of Organic Production Participants "Naturproduct", and many other organizations could be engaged in the development of organic production in rural areas. As stated in the literature, there is a need to find alternative approaches to developing rural areas of Ukraine, particularly focusing on principles that ensure the effective development of rural areas of EU member states (LISOVA et al. 2023).

Despite the consequences of hostilities we discussed earlier, several other issues could hinder the development of organic production in rural areas. These include: 1) the absence of a proper legal framework for regulating organic production; 2) a non-functioning state system for controlling the organic products market; 3) low awareness among producers about organic product certification; 4) insufficient emphasis on the environmental aspects of organic production; 5) the innovative passivity of many manufacturers and management structures; and 6) the low level of technological culture among Ukrainian agricultural producers.

The development of agriculture focused on the production of organic products should be based on the following interrelated tasks:

- ✓ Conducting land monitoring to determine the land potential suitable for the production of organic products;
- ✓ Substantiation of methodological bases for the development of the mechanism of formation and development of agriculture focused on the production of organic products at the state, regional, and local levels;
- ✓ Development and joint financing of programs aimed at preserving and restoring soil fertility of agricultural lands;
- ✓ Implementation of programs aimed at improving knowledge and skills of organic land use systems of agricultural producers of various organizational and legal forms of ownership;
- ✓ Develop national standards for certification of agricultural organic products and conditions for international products to pass international environmental certification.

The primary goal of the organic land use system should be to develop incentives for the production and sale of organic products. The emerging organic farming system should encompass the following activities:

- ✓ Formulating consistent, balanced, targeted, and effective legislation aimed at regulating land relations in organic farming. This legislation should align with ongoing land reform efforts and serve as a crucial factor in ensuring food and environmental security (FEDCHYSHYN et al. 2019).
- ✓ Creating conditions for the economically justified transition of certain agricultural organizations to organic farming by providing financial support, tax cuts, soft loans, and other measures.
- ✓ Developing and implementing a mechanism of state support for domestic agricultural producers of organic products. Indirect support can include assistance with organic product certification, conducting laboratory research, providing information and consulting services, funding research, insurance, measures to restore and enhance soil fertility, and environmental protection.
- ✓ Establishing, at the legislative level, an effective control system that introduces a comprehensive system of control at all stages of production, circulation, and sale of organic products.
- ✓ Ensuring soil condition monitoring and increasing the responsibility of landowners and users for the rational use and protection of land.
- ✓ Creating a register of agricultural organizations that produce organic products meeting the necessary international environmental standards.

- ✓ Organizing a centralized marketing service to promote Ukrainian agricultural producers' organic products in domestic and international markets.
- ✓ Creating associations and unions of agricultural producers engaged in organic product cultivation and processing, as well as organic clubs that unite consumers, producers, qualified consultants, and advisors.
- ✓ Increasing the share of organic products in processing industries and diversifying production to enhance export potential and reduce import dependence, considering the market situation domestically and abroad.
- ✓ Developing the organic agricultural products market.

In order to fulfill the set tasks, a consistent state policy is required, as well as the formation of a system of practical actions at each enterprise to improve the production process using a set of organizational, economic, and social measures of economic incentives. Cooperation with international organizations in the field of organic production will allow for quickly adjusting the existing legal framework.

In addition, when forming a mechanism to promote the development of the organic sector, it is important to rely on small and medium farms, their predominant location in remote, marginal agricultural areas with mosaic and vulnerable landscapes, to promote cooperation of organic farms and implement a cluster model of their development.

CONCLUSION

The treacherous armed aggression of the Russian Federation against Ukraine and events on the international arena clearly proved the vital and priority role of Ukrainian agribusiness. The latter is a basic component of the agro-industrial complex and one of the most important components of the agricultural industry in creating food security in Ukraine and worldwide. At the same time, Ukraine can intensify its agricultural production development and realize the export potential in the agricultural sector to increase competitiveness and take a leading place in the world market of agricultural products. The agricultural sector plays an important role in normalizing the economic situation, e.g. with the help of foreign currency income from the sale of agricultural products. It is also one of the main budget-forming sectors of the national economy. The solution to key socio-economic problems of Ukraine, its post-war restoration, food, and economic security depends on the effective functioning of the agricultural sector.

One of the most important strategic tasks of the agrarian policy of Ukraine is the gradual transition of the agricultural sector to an ecologically safe level of development in the direction of guaranteeing the population economic access to safe and high-quality food products.

The involvement of organizational, economic, and legal levers for introducing organic production in the agro-industrial sector guarantees intensive development in this sector of the economy, as it will provide an opportunity to expand markets for environmentally friendly products. Organic production is one of the tools used to improve Ukraine's economic, social, and environmental situation. It will contribute to the integrated development of rural areas and improve the quality and safety of food.

The transition from traditional agricultural production to the production of organic agricultural products can be possible after forming a full-fledged market for organic products, which provides a direct proportional increase in supply and demand. This can be achieved through the implementation of a set of measures, including - improving legal support, formation of the infrastructure of the organic products market, ensuring adequate state support, improving the system of standardization and certification of production, processing, storage, and transportation of organic agricultural products; introduction of an effective system of control, sale of organic raw materials, its processing, sale of finished organic products, etc.

The study results help solve Ukrainian national environmental protection problems and provide high-quality food products to the country's population. The study identifies the potential benefits that interested parties receive from improving the relevant legislation, subject to the introduction of appropriate amendments to the current regulatory legal acts and the appearance of new ones. The specified legislative changes would speed up the implementation of the national legal framework to European and international standards and allow the potential of the organic products market to be practically realized. In addition, they will also contribute to ensuring the necessary level of food security for the state based on the rationalization of the structure of the agricultural sector, the guaranteed production of high-quality agricultural products, and the appropriate level of safety. Ukraine's fulfillment of obligations related to acquiring candidate status for EU membership requires further changes in the legal regulation of state support for agriculture.

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