

[The Methodical Approach to Substantiation of the Method of Coal Gasification for the Production of Synthetic Motor Fuels]. *Biznes Inform*, no. 7 (2024): 254-264.

DOI: <https://doi.org/10.32983/2222-4459-2024-7-254-264>

Shulha, I. V. et al. "Patent Ukrainy na korysnu model 156530 Ukraina. Sposib otrymannia syntetychnykh

motornykh palyv z vuhillia" [Patent of Ukraine for Utility Model 156530 Ukraine. The Method of Obtaining Synthetic Motor Fuels from Coal]. *Opubl. Biul.*, no. 27 (2024).

"World Energy Outlook 2023". International Energy Agency. <https://www.iea.org/reports/world-energy-outlook-2023>

UDC 338.45

JEL Classification: L66; H56

DOI: <https://doi.org/10.32983/2222-4459-2024-10-194-205>

AGRICULTURE AND FOOD INDUSTRY UNDER THE LEGAL REGIME OF MARTIAL LAW

© 2024 PETRUKHA N. M., PETRUKHA S. V., UMANETS Y. M., RYBITSKYI O. L.

UDC 338.45

JEL Classification: L66; H56

Petrukha N. M., Petrukha S. V., Umanets Y. M., Rybitskyi O. L. Agriculture and Food Industry under the Legal Regime of Martial Law

The theoretical and methodological basis of the study, set out in this scientific article, is based on the study of the issue of efficient functioning of agriculture and food industry under the legal regime of martial law. The aim of the study is to analyze the main problems and challenges faced by agricultural enterprises and the food industry under martial law, as well as to develop proposals for adapting their activities to modern conditions. To achieve this aim, a wide range of research methods were used, the main of which were the methods of generalization and synthesis, scientific abstraction, analytical diagnosis, descriptive statistics. The article examines the impact of the legal regime of martial law on economic sustainability and production processes in agriculture, processing and food industries, in particular through the prism of ensuring food security, access to resources and support on the part of the State. It is found that the key problems for agriculture and the food industry under martial law are disruption of logistics chains, insufficient resource supply, difficulties with the exportation of products, as well as the need to relocate production to safer regions. It is proved that the efficient functioning of agriculture, processing and food industries is possible subject to the adaptation of the State regulation mechanisms to the legal regime of martial law, in particular, the direction of State support for the relocation of the processing and food industries, the implementation of humanitarian demining, export stimulation and the introduction of grant programs for financing agricultural production and the production of niche agricultural products. Prospects for further research can be aimed at developing integrated models of financial and economic stimulation of agro-industrial enterprises under martial law, studying the efficiency of international technical assistance and investment flows for the restoration of agricultural infrastructure, as well as optimizing the State support mechanisms in crisis situations, which will contribute to the sustainable development of agriculture and food industry in Ukraine.

Keywords: agriculture, agrarian sector of the economy, processing industry, food industry, added value, State support (assistance), relocation, export.

Tabl.: 4. **Bibl.:** 26.

Petrukha Nina M. – Candidate of Sciences (Economics), Associate Professor, Associate Professor of the Department of Management in Construction, Kyiv National University of Construction and Architecture (31 Povitryanykh Syl Ave., Kyiv, 03680, Ukraine)

E-mail: nninna1983@gmail.com

ORCID: <https://orcid.org/0000-0002-3805-2215>

Researcher ID: <https://www.webofscience.com/wos/author/record/2411439>

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=58000960900>

Petrukha Serhii V. – Candidate of Sciences (Economics), Associate Professor, Associate Professor of the Department of Management in Construction, Kyiv National University of Construction and Architecture (31 Povitryanykh Syl Ave., Kyiv, 03680, Ukraine)

E-mail: psv03051984@gmail.com

ORCID: <https://orcid.org/0000-0002-8859-0724>

Researcher ID: <https://www.webofscience.com/wos/author/record/2411435>

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=57006812300>

Umanets Yevhen M. – Postgraduate Student, College of International Business (1 Duchnovic Square, Preshov, 08001, Slovakia)

E-mail: Jekaum@ukr.net

Rybitskyi Oleksandr L. – Postgraduate Student, National Scientific Center "Institute of Agricultural Economics" (10 Heroiv Oborony Str., Kyiv, 03680, Ukraine)

E-mail: arybitskiy@gmail.com

Петруха Н. М., Петруха С. В., Уманець Є. М., Рибіцький О. Л. Сільське господарство та харчова промисловість в умовах правового режиму воєнного стану

Теоретико-методологічна основа дослідження, викладена в науковій статті, ґрунтується на вивченні питань ефективного функціонування сільського господарства та харчової промисловості в умовах правового режиму воєнного стану. Метою дослідження є аналіз основних проблем і викликів, що постають перед сільськогосподарськими підприємствами та харчовою промисловістю в умовах воєнного стану, а також розробка пропозицій щодо адаптації їхньої діяльності до сучасних умов. Для досягнення цієї мети використовувалися широкий спектр методів дослідження, основними з яких були методи узагальнення та синтезу, наукової абстракції, аналітичної діагностики, описової статистики. У статті досліджено вплив правового режиму воєнного стану на економічну стійкість і виробничі процеси в сільському господарстві, переробній та харчовій промисловості, зокрема через призму забезпечення продовольчої безпеки, доступу до ресурсів і державної підтримки. Встановлено, що ключовими проблемами для сільського господарства та харчової промисловості в умовах воєнного стану є порушення логістичних ланцюгів, недостатність ресурсного забезпечення, складнощі з експортом продукції, а також необхідність релокації виробництва в більш безпечні регіони. Доведено, що ефективне функціонування сільського господарства, переробної та харчової промисловості можливе за умови адаптації механізмів державного регулювання до правового режиму воєнного стану, зокрема спрямування державної підтримки на релокацію переробної і харчової промисловості, здійснення гуманітарного розмінування, стимулювання експорту та запровадження грантових програм фінансування сільгоспвиробництва та виробництва нішевої сільгосппродукції. Перспективи подальших досліджень можуть бути спрямовані на розробку інтегрованих моделей фінансово-економічного стимулювання агропромислових підприємств в умовах воєнного стану, дослідження ефективності міжнародної технічної допомоги та інвестиційних потоків для відновлення аграрної інфраструктури, а також на оптимізацію механізмів державної підтримки в умовах кризових ситуацій, що сприятиме сталому розвитку сільського господарства та харчової промисловості в Україні.

Ключові слова: сільське господарство, аграрний сектор економіки, переробна промисловість, харчова промисловість, додана вартість, державна підтримка (допомога), релокація, експорт.

Табл.: 4. Бібл.: 26.

Петруха Ніна Миколаївна – кандидат економічних наук, доцент, доцент кафедри менеджменту в будівництві, Київський національний університет будівництва і архітектури (просп. Повітряних Сил, 31, Київ, 03680, Україна)

E-mail: nninna1983@gmail.com

ORCID: <https://orcid.org/0000-0002-3805-2215>

Researcher ID: <https://www.webofscience.com/wos/author/record/2411439>

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=58000960900>

Петруха Сергій Валерійович – кандидат економічних наук, доцент, доцент кафедри менеджменту в будівництві, Київський національний університет будівництва і архітектури (просп. Повітряних Сил, 31, Київ, 03680, Україна)

E-mail: psv03051984@gmail.com

ORCID: <https://orcid.org/0000-0002-8859-0724>

Researcher ID: <https://www.webofscience.com/wos/author/record/2411435>

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=57006812300>

Уманець Євген Миколайович – аспірант, Вища школа міжнародного бізнесу (площа Духновича, 1, Пряшів, 08001, Словаччина)

E-mail: Jekaum@ukr.net

Рибіцький Олександр Леонідович – аспірант, Національний науковий центр «Інститут аграрної економіки» (вул. Героїв Оборони, 10, Київ, 03680, Україна)

E-mail: arybitskiy@gmail.com

Agriculture and food industry occupy a key place in the economic structure of any country, securing subsistence and ensuring stability of economic processes, which act not only as basic components of ensuring food security, but also as key elements of recovering the economic system of the State. However, under the legal regime of martial law in Ukraine, these industries face a number of significant challenges due to the impact of the war, economic restrictions, disruption of logistic chains and reduced financial capabilities. In this context, it is extremely important to develop new approaches to the adaptation of agriculture and the food industry to new conditions, which requires not only a new theoretical interpretation, but also the elaboration of practical solutions to ensure the military-adapted functioning of these industries.

Modern economic transformation, accompanied by significant socioeconomic challenges, in particular, as a result of the Russian-Ukrainian war and crisis phenomena that negatively affect social stability and economic development, support for agricultural and food industry enterprises is becoming especially relevant. Given the limited internal financial resources and the high level of risks that accompany these activities in wartime, one of the key strategies for ensuring economic sustainability is to actively attract grant funding. In this regard, we consider it necessary to conduct a study that will comprehensively assess the current state of agricultural and food industry enterprises under the legal regime of martial law, identify the main problems and challenges faced by these industries, as well as explore effective mechanisms for their recovery and development in crisis conditions.

Modern scientific publications pay considerable attention to the study of the impact of martial law on the functioning of the agrarian sector of the economy, in particular agriculture and the food industry, in the context of the Russian-Ukrainian war and global economic changes. The article by L. Shostak, S. Behun and A. Ulianytskyi [1] studies the state of the food industry market during hostilities, emphasizes the importance of adapting enterprises to crisis conditions, in particular, the need for rapid transformation of logistics chains and ensuring food security at the national level. In particular, the authors emphasize that State support for agricultural and food industry enterprises is critically important for providing the population with food in wartime.

M. Kudinova and M. Rubaiko [8] systematized international aid programs for agricultural and food industry enterprises, which allow to preserve the country's export potential in wartime. The researchers focus on the importance of international support mechanisms for the recovery of agricultural and food processing enterprises, ensuring their access to new markets in wartime, as well as the importance of efficient integration of international financial initiatives into the national economic strategy of Ukraine's post-war recovery.

The results of the research presented in the publications of O. Melnykov, O. Shubalyi and a number of other authors [22–26] emphasize the importance of integrating agricultural and food industry enterprises into the processes of formation of the war economy and post-war recovery, in particular through the socioeconomic mechanisms of the structural functions of the rural economy. The researchers also identify the need to strengthen regulatory ties between rural economic entities, local self-government bodies and State regulatory institutions to ensure sustainable and comprehensive development of rural areas, their efficient post-war recovery against the background of prevailing uncertainty.

Thus, the available research indicates the need for an integrated approach to solving the problems of the functioning of agricultural and food industry enterprises in the context of the Russian-Ukrainian war. In particular, support for agriculture and the food industry under martial law requires a more detailed analysis, taking into account the integration of international and domestic support mechanisms, as well as the need to develop State policies to ensure the sustainability of economic activity in the agricultural sector of the national economy.

In the course of the study, previously unresolved parts of the general problem related to the processes of adaptation of agricultural and food enterprises to the

conditions of martial law were identified, in particular, insufficient use of the potential of international assistance (support) and financing mechanisms for their post-war recovery and modernization. In addition, the legal regime of martial law and uncertainty, including economic uncertainty, additionally actualizes the need to develop special measures to reduce economic risks (threats) and stimulate the sustainable and comprehensive development of agricultural and food industry enterprises.

The aim of the article is to carry out a scientific and practical study of the main problems and challenges facing agricultural enterprises and food industry enterprises under martial law, as well as to develop proposals for adapting their activities to modern conditions, i. e. the new normality of their usual activities. To achieve this aim, the following interrelated objectives have been formulated and solved:

- 1) analyze the main problems and challenges facing agricultural enterprises and food industry enterprises under the legal regime of martial law;
- 2) assess the peculiarities of attracting international support (assistance) and financing mechanisms for the restoration and modernization of agricultural and food industry enterprises in crisis conditions.

To conduct the study, a comprehensive methodology was applied, including general scientific and special methods. In particular, the study uses methods of analysis and synthesis of assessment of the situation in the agricultural sector of the economy as a whole and in the field of agriculture and food industry in particular, comparison methods are used to determine the efficiency of different approaches to the adaptation of these enterprises to the conditions of martial law. Further, the methods of generalization, scientific abstraction, analytical diagnostics, descriptive statistics were used, helping to carry out a detailed study of the problems arising in the agrarian sector of the economy, international support (assistance) and financing were assessed, and recommendations were provided for optimizing the State policy on the restoration and modernization of agricultural and food industry enterprises under the legal regime of martial law.

According to the State Statistics Service, the agrarian sector of the economy in 2022 formed 8.6% of GDP, its share in exports was 53%, and in the total volume of capital investments amounted to 20%. The agrarian sector of Ukraine's economy has been occupying an important place in the system of global food security for a long time. Along with this, the full-scale military aggression of the Russian Federation, unleashed in 2022, became a factor that threat-

ened not only the stability of agricultural production and the activities of the food industry in Ukraine, but also affected international food flows, in particular in the grain market. The armed conflict disrupted the functioning of the main logistics routes, including sea-ports, through which significant volumes of agricultural products were exported before the war, including the main export crops – wheat, corn and sunflower oil. The total damage caused to the agrarian sector of the

economy is about USD 4.3 billion, which has a serious impact not only on domestic agriculture, but also on global food security.

Identification of problems in agriculture and the food industry and substantiation of directions for overcoming them is a necessary prerequisite for ensuring food security and restoring economic stability under martial law (*Tab. 1*).

Table 1

Key Problems in Agriculture and Food Industry and Directions for Their Solution under the Legal Regime of Martial Law

Problems	Consequences	Directions of solution
1	2	3
<i>Agriculture</i>		
Disruption of global supply chains due to disruption of the functioning of strategic ports (Odesa, Chornomorsk, Pivdennyi) Disruption of global supply chains due to disruption of the functioning of strategic ports (Odesa, Chornomorsk, Pivdennyi)	Decline in agricultural exports, which caused a global food crisis and inflationary processes	Integration into alternative logistics networks, creation of transport corridors to EU countries and Black Sea ports, stimulation of the signing of multilateral agreements with international partners
Reduction in grain exports (more than 70% of the pre-war level)	The shortage of grain in international markets caused a significant increase in prices for basic food products	Development of programs to support exporters, expansion of export geography using the latest supply management technologies
Shortage of nitrogen fertilizers due to damage to energy infrastructure and reduced natural gas supplies to Europe	The increase in the cost of nitrogen fertilizers led to an increase in the cost of agricultural products, a deterioration in yields, which increases dependence on imported products	Diversification of energy supply sources, support for domestic fertilizer production, stimulation of the development of the green chemical industry
Shortage of skilled labor force resulting from migration processes and mobilization to Armed Forces	Reduction in productivity of the agrarian sector, decrease in the competitiveness of Ukrainian exports	Reintegration of internally displaced persons (hereinafter referred to as IDPs) into agrarian production, modernization of agricultural technologies to minimize dependence on the human factor
Loss of arable land (about 25%) and the need for humanitarian demining (more than 500 thousand hectares)	Loss of sown areas, decrease in domestic production, growth of import dependence to ensure food security	Attraction of international technical assistance for land demining, implementation of programs for the restoration of agricultural land, automation of the land cadaster
<i>Food industry</i>		
Mass shutdown of enterprises (more than 40%) in the first months of the war	Loss of a significant part of the economic potential, growth of the unemployment rate, decrease in the volume of processing and production of food products	Stimulation of investment in food industry enterprises, State lending programs for the restoration of production capacities
Reduction in sunflower oil production (30-40% of the pre-war level) due to export disruptions and shortages of raw materials	Deterioration of the export-import balance, rising prices for oilseeds and oilseed products, and a decrease in consumer affordability	Formation of strategic reserves of raw materials, reorientation to the domestic market, emphasis on import substitution

1	2	3
Energy dependence and power outages in frontline zones	Shutdown of enterprises, increase in energy costs, increase in production costs	Modernization of enterprises using renewable energy sources, in particular solar and wind power plants, provision of autonomous energy supply systems
Seasonal fluctuations in demand, including increased demand for sausages during holiday periods	Uneven production volumes, imbalance of supply and demand in the market	Implementation of technologies for forecasting seasonal demand, automation of production processes, adaptation of business models to changing market conditions

Source: Composed by the authors on the basis of [1; 2].

The results presented in Table 1 demonstrate the complex nature of problems in the agrarian sector of the Ukrainian economy and the need for a multi-level approach to their solution. In addition, consideration of the efficiency of measures aimed at restoring agricultural production indicates the complexity and duration of this process. Forecasts for 2023 suggested a slight increase in summer crop yields, however, given further forecasts for 2024, there is an expected decrease in agricultural production to 88.5% from the level of 2022. However, according to forecasts for 2025, a gradual recovery of the agricultural sector is possible due to optimistic estimates of producers' profitability, which will compensate for costs and improve the financial performance of the industry.

The agrarian crisis caused by the war has led to a number of global and regional problems that require a comprehensive approach to restore and stabilize the agrarian sector. Given the scale of damage and the obstacles to recovery, Ukraine's agricultural sector needs both domestic and international investment, as well as effective coordination between public and private entities to achieve sustainable recovery and ensure food security at the global level.

Russian military aggression against Ukraine has caused profound destructive consequences for domestic business and the financial sector, manifested in a reduction in business activity, a decrease in revenues and a decrease in production volumes. The main factors for this were the mass displacement of the population and a decrease in the purchasing power of citizens. In response to these challenges, the United States Agency for International Development (hereinafter referred to as USAID) is directing investments in the amount of more than USD 874 million in order to support the Ukrainian economy under martial law and form the basis for its prompt and sustainable recovery after its repeal [3].

A key component of the strategy of the Government of Ukraine in cooperation with international or-

ganizations is to ensure the implementation of targeted grant programs aimed at supporting agribusiness affected by hostilities. The allocated grant funds are used to finance operating expenses, ensure employee benefits, and cover other critical expenses. As a result of the joint efforts of the government and international partners, specialized grant support programs have been developed, which create prerequisites for the stabilization and gradual resumption of entrepreneurial activity (Tab. 2). Grant programs, which are focused on supporting innovation, modernization of production processes, environmental sustainable development and resumption of economic activity, are important instruments for achieving economic stability at the level of individual enterprises and sectors of the economy under the legal regime of martial law. However, for the effective use of grant funds, it is necessary to clearly define and take into account the main areas of support, as well as the criteria for participation in the program, which will ensure a high level of efficiency and effectiveness of these financial instruments.

Thus, grant programs, as an instrument of State and international support, are a key component of Ukraine's economic recovery. They not only stimulate the development of innovative technologies and improve energy efficiency, but also contribute to social recovery by supporting agribusinesses affected by the war. Taking into account clearly defined participation criteria and the main areas of funding allows for maximizing the potential of grant funds to support the sustainability and competitiveness of agricultural and food industry enterprises. In addition, constant monitoring of current grant opportunities is necessary to ensure the continuous development of business in conditions of economic instability, which in turn has a positive impact on the overall economic stability of the country.

Within the framework of the Agricultural Sustainability Initiative (AGRI-Ukraine), the United States

Table 2

The Grant Programs to Support Agricultural and Food Industry Enterprises

Program	Target audience	Purpose and main directions	Financing	Eligibility criteria
USAID «Competitive economy of Ukraine» (CEU)	Small and medium-sized processing enterprises of private ownership	Supporting innovation in production processes, ensuring environmental sustainability, stimulating economic development through technology modernization and integration of energy-efficient solutions	up to USD 100.000 (up to 25 grants)	Focus on innovative solutions, technologies, energy efficiency, modern management methods
Grant support for small and medium-sized businesses	Family & Women's Businesses	Business relocation, expansion of production capacities, entry into international markets, development of new products and services	USD 10.000–35.000 (about 100 grants)	Less than 250 employees, annual turnover up to UAH 50 million, availability of strategic development plans
AGRI-Ukraine Initiative	Agrarian sector	Support for agricultural production through the provision of funds for the purchase of seeds, fertilizers, as well as modernization of processing processes to increase production efficiency	Not specified	Focus on the sustainability of agricultural production, support for cooperative forms of management
Help – Hilfe zur Selbsthilfe	Microbusiness in the City of Kyiv and Kyiv region	Providing grants to support microbusiness development, in particular for entrepreneurs belonging to vulnerable groups such as IDPs, women entrepreneurs, households with children and the elderly	up to UAH 2.700	IDPs, women entrepreneurs, households with children, older people
PEARL from Global Communities	Individuals and businesses that have suffered losses	Restoration of jobs, development of small and medium-sized businesses, compensation of costs for the restoration of infrastructure and production facilities	USD 5.000–25.000	Mandatory co-financing of 10% of the total amount of assistance; businesses that have suffered losses due to crisis events
EU4Business	Small and medium-sized enterprises from combat zones	Business development, resumption of economic activity of enterprises, in particular through support for the creation of new jobs and adaptation to changing conditions	USD 10.000 (for 10 companies)	Registration in the affected regions; the need for assistance due to hostilities is proved
International Organization for Migration	Small and micro enterprises	Resumption of production, creation of new jobs, support for enterprises that have become victims of the consequences of the humanitarian crisis and war	up to UAH 4.500 (micro-enterprises)	Registration of the enterprise for at least 1 year, citizens of Ukraine, involvement in restoration projects
Food and Agriculture Organization of the United Nations (FAO)	Agricultural producers	Supporting farmers and cooperatives through the provision of grants for the purchase of seeds, fertilizers and other agricultural inputs to increase yields and sustainability of production	USD 1.000–25.000	For small farmers, cooperatives, agricultural associations
Mercy Corps	Agricultural enterprises that have relocated their business	Support for agribusiness, processing, production, development of agricultural enterprises that have moved from dangerous and occupied territories	Not specified	Co-investment of up to 50% of the aid amount, enterprises with experience in agribusiness

Source: Composed by the authors on the basis of [4–21].

Agency for International Development (USAID) systematically supports Ukrainian farmers in the cultivation and exportation of strategically important grain crops that are critical for food security in Ukraine and the world. The main measures include providing agricultural enterprises with high-quality seeds and fertilizers, optimizing product processing processes and modernizing exportation and logistics infrastructure. At the same time, USAID stimulates co-investment by micro, small, and medium-sized enterprises, contributing to the expansion of their operational capabilities and strengthening economic resilience, which significantly increases the potential of the national economy.

One of USAID's key activities is to assist the Government of Ukraine in introducing efficient and transparent mechanisms for managing State assets that are

focused on ensuring maximum public welfare. Thanks to this, a modern financial sector is being formed, which functions in accordance with the world's leading standards and practices, while maintaining political and financial independence. This approach contributes to the formation of trust both among the citizens of Ukraine and on the part of the international community of investors.

The programs, implemented with the support of international organizations, are aimed at the comprehensive restoration and modernization of the agricultural sector of Ukraine, increasing its resilience to external challenges and strengthening competitiveness in global markets. Table 3 presents the main programs and initiatives that play a key role in supporting and developing agriculture in Ukraine under the legal regime of martial law.

Table 3

The Programs and Projects to Support the Agrarian Sector of Ukraine

Program name	Administrative authority	Implementation period	Main areas of activity
Project «Economic Support for Eastern Ukraine»	DAI Global	August 27, 2018 – August 26, 2026	Focused on creating a sustainable and inclusive economy through infrastructure modernization, improving export logistics and attracting investments. Particular emphasis is placed on increasing the throughput of grain transport systems and reducing the cost of exporting products
Program «Competitive Economy of Ukraine» (CEP)	Chemomics International	October 16, 2018 – October 15, 2025	Focuses on the formation of a dynamic and diverse economic environment that supports the development of small and medium-sized enterprises. Promotes investment, supports innovative industries, improves access to finance and expands opportunities to enter international markets
Portfolio Guarantee Program with Bank «Lviv»	International Development Finance Corporation (DFC)	September 2019 – September 2029	Provides increased access to finance for micro, small and medium-sized agricultural enterprises by providing loans in national and foreign currency, increasing the competitiveness of farmers and stimulating the development of agricultural production
USAID Agrarian and Rural Development Program – AGRO	Chemomics International	November 15, 2019 – November 13, 2026	Covers a wide range of measures aimed at increasing the income and productivity of small and medium-sized farms, stimulating land market reform and irrigation, as well as reducing corruption. Ensures the recovery of the agricultural sector due to the Russian invasion, supports the integration of producers into markets and promotes regulatory reforms
Investment for Business Resilience (IBR) Project	DAI Global	July 13, 2022 – July 13, 2027	Focused on the transformation of the Ukrainian economy into an open, transparent and competitive system in accordance with European standards. Supports the private sector by expanding financing for businesses, promotes reforms in legislation and the regulatory environment
Harvest Program	Chemomics	April 1, 2024 – March 31, 2029	Focused on increasing the productivity, resilience and competitiveness of Ukrainian agricultural producers during the armed conflict. Included in the AGRI-Ukraine initiative aimed at increasing volumes of the production and exportation of agricultural products, reducing the consequences of the global food crisis and creating conditions for sustainable economic growth

Source: Composed by the authors on the basis of [3].

International support is crucial for strengthening and further developing the agricultural sector of Ukraine's economy, in particular in the context of the ongoing war. The programs presented in Table 3 demonstrate a wide range of interventions aimed at supporting the national economy, including financial assistance, lending, exports promotion and implementation of necessary regulatory changes. Such an integrated approach ensures the sustainability of agribusiness, increases its competitiveness, and also creates prerequisites for stable and sustainable growth of the Ukrainian economy in the long term [3].

The Ukrainian agrarian sector is actively using the opportunities provided by international grant pro-

grams to improve and develop its production capacities.

In 2024, international organizations, including USAID, the Swiss Confederation and the Danish Refugee Council, proposed a number of various support programs aimed at organic producers, medium-sized agricultural enterprises and farmers intending to modernize their production, in particular through the purchase of mineral fertilizers.

Table 4 provides a detailed overview of the main parameters of grants available to Ukrainian agricultural and food industry enterprises, which is an important instrument for their sustainable development and technological modernization.

Table 4

The Grant Programs to Support Agricultural and Food Industry Enterprises

Grant type	Applying	Grant amount	Organizer	International support
Support for organic producers	until September 20, 2024	USD 5 thousand	Association «Organic Initiative»	Swiss Confederation
«Exporter» Support Program	until November 18, 2024	USD 20-75 thousand	USAID AGRO	USAID
Empowering agribusiness	until October 5, 2024	USD 20 thousand	Danish Refugee Council (DRC)	Swiss Confederation
Support for medium-sized agricultural enterprises	until January 17, 2024	USD 30 thousand	USAID AGRO	USAID
Mineral fertilizer support program	until October 10, 2024	1 ton of nitroammophoska for main and pre-sowing application	USAID AGRO	USAID AGRO

Source: Composed by the authors on the basis of [7].

The analysis of the data presented in Table 4 indicates a high level of interest and support from international organizations aimed at strengthening the agrarian sector of the Ukrainian economy through the provision of grant support focused on various strategic areas. Taking into account the requirements and features of each grant program, Ukrainian farmers have the opportunity not only to increase their production capacity, but also to contribute to sustainable economic development. Such comprehensive international support creates preconditions for ensuring stable economic growth of the agrarian sector of the Ukrainian economy, which is an important aspect in the context of modern global challenges [8].

The financial and economic stimulation of the development of processing industries in Ukraine should take place in several key areas [21–26]:

1. Improvement of the existing incentive system. It is necessary to improve the mechanisms of financial and economic management, in particular through the introduction of new methods of State regulation, which will attract additional financial resources for innovations in the processing industry.
2. Priority of strategic directions. It is important to provide support to those sectors that have the potential to meet national security needs and develop socially important goods and services, even under martial law, striking a balance between immediate needs and long-term recovery.
3. Attracting foreign investment and advanced technologies will contribute to the modernization of processing enterprises, ensuring high

added value of products and competitiveness in international markets.

4. Development of the State financial and credit system. It is important to create conditions for easy attraction of financial resources for innovation in processing enterprises, in particular through specialized financial institutions, such as the Ukrainian Bank for Reconstruction.
5. Adaptation to martial law. To overcome negative trends, it is necessary to implement a sustainable development model that will contribute to improving economic performance, reducing unemployment and negative environmental impact, ensuring the development of Industry 4.0 and efficient clustering between sectors of the economy.

The introduction of these areas of financial and economic stimulation of the development of processing industries will become the basis for the formation of an efficient model for the modernization of the agrarian sector of the economy of Ukraine, which will not only contribute to increasing the level of added value of products and competitiveness in the world market, but also ensure the socioeconomic stability of the State. Therefore, the long-term prospects for the development of agriculture and food industry in Ukraine should be focused on a comprehensive approach to solving the challenges that have arisen under martial law, taking into account the needs of the formation of an innovative, environmentally balanced and highly competitive agro-industrial system, which will serve as the basis for post-war reconstruction and sustainable economic growth.

CONCLUSIONS

As a result of the study, it is found that under the legal regime of martial law, agriculture and food industry of Ukraine have undergone significant structural changes due to the need for prompt adaptation to the crisis conditions of functioning. It is determined that transformation processes in the agrarian sector are accompanied by a number of challenges, among which it should be noted insufficient integration of modern financial and economic instruments, limited resources for the development of processing capacities, destruction of logistics infrastructure and disparities in the distribution of State support. It is further determined that in order to respond to these challenges, such tasks as improving the mechanisms of State regulation, intensifying international technical and financial assistance, introducing innovative technologies, as well as strengthening the export potential of agricultural producers come to the fore.

The practical significance of the conducted study lies in the consideration that the conclusions and recommendations formulated by the authors in the article can be used to form strategies for the development of the agrarian sector under the legal regime of martial law, to optimize the mechanisms of State support for agricultural and processing enterprises, development of international technical assistance programs aimed at restoring infrastructure, introducing innovative technologies and integrating Ukrainian foods into global food markets. Further research can be aimed at assessing the socioeconomic effects of the implementation of international technical assistance programs in the agrarian sector of the economy, as well as developing efficient models of State support for agriculture and the food industry under the legal regime of martial law and in the period of post-war recovery, with an emphasis on stimulating innovation and increasing the competitiveness of the industry. ■

BIBLIOGRAPHY

1. Шостак Л., Бегун С., Ульяницький А. Аналіз ринку харчової промисловості у воєнний період. *Економіка та суспільство*. 2024. № 63. DOI: <https://doi.org/10.32782/2524-0072/2024-63-96>
2. Жнива надії: Як Сільське Господарство Розвивається В Україні В Умовах Війни // EOS. 2024. URL: <https://eos.com/uk/harvesting-hope-standing-with-ukraine/>
3. Економічний розвиток // USAID. 2024. URL: <https://www.usaid.gov/uk/ukraine/economic-growth>
4. Гранти для підтримки малих та середніх переробних підприємств // Дія. Бізнес. 2024. URL: <https://business.dii.gov.ua/cases/granti/granti-dla-pidtrimki-malih-ta-serednih-pererobnih-pidpriemstv>
5. Гранти для малих та середніх жіночих та сімейних підприємств // Дія. Бізнес. 2024. URL: <https://business.dii.gov.ua/cases/granti/granti-dla-malih-ta-serednih-zinocih-ta-simejnih-pidpriemstv>
6. USAID АГРО надасть мінеральні добрива для 7000 українських агровиробників на весняну посівну 2024 // Міністерство аграрної політики та продовольства України. URL: <https://minagro.gov.ua/news/programa-usaid-agro-nadast-mineralni-dobryva-dlya-7000-ukrayinskih-agrovirobnikiv-navesnyanu-posivnu-2024>
7. Звіт щодо отримувачів державної підтримки в галузі АПК // Міністерство аграрної політики та продовольства України. URL: <https://minagro.gov.ua/investoram/monitoring-stanu-apk/eksport-z-ukrayinizernovihzernobobovih-ta-boroshna>
8. Кудінова М., Рубайко М. Механізми міжнародної підтримки зовнішньоекономічної діяльності аграрних підприємств в Україні. *Економіка та суспільство*. 2023. № 57.

- DOI: <https://doi.org/10.32782/2524-0072/2023-57-35>
9. Грант на закупівлю обладнання та матеріалів для мікробізнесу у м. Київ та Київській області // Дія. Бізнес. 2024. URL: <https://business.diaa.gov.ua/cases/granti/grant-na-zakupivlu-obladnanna-ta-materialiv-dla-mikrobiznesu-u-m-kiiv-ta-kiivskij-oblasti>
 10. Гранти в межах програми PEARL для підтримки бізнесу, що постраждав від війни // Дія. Бізнес. 2024. URL: <https://business.diaa.gov.ua/cases/granti/granti-v-mezah-programi-pearl-dla-pidtrimki-biznesu-so-postrazdav-vid-vijni>
 11. Гранти до 400 000 гривень на розвиток бізнесу для МСП з областей бойових дій // Дія. Бізнес. 2024. URL: <https://business.diaa.gov.ua/cases/granti/granti-do-400-000-griven-na-rozvitok-biznesu-dla-msp-z-oblastej-bojovih-dij>
 12. Грантова програма MOM для постраждалих від війни мікро- та малих підприємств в Україні // Дія. Бізнес. 2024. URL: <https://business.diaa.gov.ua/cases/granti/grantova-programa-mom-dla-postrazdalih-vid-vijni-mikro-ta-malih-pidpriemstv-v-ukraini>
 13. Козоріз В. Вудки замість риби. ФАО розширює програму гуманітарної допомоги сільському населенню Харківщини. *Урядовий кур'єр*. 2023. URL: <https://ukurier.gov.ua/uk/articles/vudki-zamist-ribi/>
 14. Програма підтримки економічної стійкості України (UERP) // Mercy Corps UERP. 2024. URL: <https://uerp.mercycorps.org/>
 15. У 8 областях України запрацював консультаційний Центр розвитку фермерства. 2024. URL: <https://www.prostir.ua/?news=u-8-oblastyah-ukrajiny-zapratsyuvav-konsultatsijnyj-tsentro-rozvytku-fermerstva>
 16. Ключові політики та заходи для підтримки аграрного сектору України в умовах воєнного стану // НІСД. 2024. URL: <https://niss.gov.ua/doslidzhennya/ekonomika/klyuchovi-polityky-ta-zakhody-dlya-pidtrymky-ahrarnoho-sektoru-ukrayiny-v>
 17. Kovalska L., Rogach S., Petrukha N., Mamontova N., Yurchenko O., Derevianko S., Kolumbet O. Correlation analysis of profitability in the management system of agricultural enterprises on the basis of sustainable development. *Management, Economic Engineering in Agriculture and Rural Development*. 2021. Vol. 21. Iss. 4. P. 327–336. URL: https://managementjournal.usamv.ro/pdf/vol.21_4/volume_21_4_2021.pdf
 18. Sokolovska O., Dziurakh Y., Kristinyak M., Petrukha N., Nazaruk M. The Impact of Military Actions on Food and Labor Security. *International Journal of Computer Science and Network Security*. 2022. Vol. 22 No. 6. P. 582–588. DOI: <https://doi.org/10.22937/IJCSNS.2022.22.6.72>
 19. Ryzhakova G., Petrukha S., Petrukha N., Krupelnytska O., Hudenko O. Agro-Food Value Added Chains: Methodology, Technique and Architecture. *Financial and Credit Activity: Problems of Theory and Practice*. 2022. Vol. 4 (45). P. 385–395. DOI: <https://doi.org/10.55643/fcaptp.4.45.2022.3809>
 20. Belei S., Lopatynskiy Y., Lahodyn N., Nezhyd Y., Petrukha N. The Role of Uneven Agricultural Business Growth in Shaping the Socioeconomic Landscape of Rural Regions. *AD ALTA*. 2024. Vol. 14, Issue 2, Special Issue XLV. P. 212–218. URL: https://www.magnanimitas.cz/ADALTA/140245/papers/G_31.pdf
 21. Петруха Н. М., Петруха С. В. Державне регулювання інтегрованих корпоративних об'єднань в умовах структурно-інституціональної та функціональної трансформації сільської економіки: проблеми методології, теорії, соціально-економічної та секторальної політики : монографія. Київ : ТОВ «Видавничий дім «Професіонал», 2020. 496 с.
 22. Шубалий О. М., Петруха С. В., Косінський П. М., Петруха Н. М. Фінансово-економічне стимулювання розвитку переробної промисловості на основі природно-ресурсного потенціалу регіонів у повоєнний період. *Фінанси України*. 2023. № 3. С. 55–74. DOI: <https://doi.org/10.33763/finukr2023.03.055>
 23. Dziamulych M., Shmatkovska T., Petrukha S., Zatsepina N., Rogach S., Petrukha N. Rural agritourism in the system of rural development: a case study of Ukraine. *Management, Economic Engineering in Agriculture and Rural Development*. 2021. Vol. 21. Iss. 3. P. 333–343. URL: https://managementjournal.usamv.ro/pdf/vol.21_3/Art38.pdf
 24. Петруха С. В., Петруха Н. М. Аграрний сектор економіки: візія фінансового контексту досягнення Цілей сталого розвитку. *Облік і фінанси*. 2023. № 4. С. 143–155. DOI: [https://doi.org/10.33146/2307-9878-2023-4\(102\)-143-155](https://doi.org/10.33146/2307-9878-2023-4(102)-143-155)
 25. Шубалий О. М., Петруха С. В., Косінський П. М., Петруха Н. М. Формування системи інформаційно-аналітичного забезпечення розвитку біопаливних виробництв на базі підприємств агросектору. *Наукові праці НДФІ*. 2023. № 3. С. 133–147. DOI: <https://doi.org/10.33763/npndfi2023.03.133>
 26. Мельников О. В., Петруха С. В., Петруха Н. М. Економічне відновлення сільських територій: співвідношення фундаментального та прикладного аспектів наукового дослідження. *Вчені записки Університету «КРОК»*. 2021. № 1 (61). С. 176–193. DOI: <https://doi.org/10.31732/2663-2209-2021-61-176-193>

REFERENCES

- Belei, S. et al. "The Role of Uneven Agricultural Business Growth in Shaping the Socioeconomic Landscape of Rural Regions". *AD ALTA*. 2024. https://www.magnanimitas.cz/ADALTA/140245/papers/G_31.pdf
- Dziamulych, M. et al. "Rural agritourism in the system of rural development: a case study of Ukraine". *Management, Economic Engineering in Agriculture and*

- Rural Development. 2021. https://management-journal.usamv.ro/pdf/vol.21_3/Art38.pdf
- “Ekonomichniy rozvytok” [Economic Development]. USAID. 2024. <https://www.usaid.gov/uk/ukraine/economic-growth>
- “Hrant na zakupivliu obladnannia ta materialiv dlia mikrobiznesu u m. Kyiv ta Kyivskii oblasti” [Grant for the Purchase of Equipment and Materials for Micro-businesses in Kyiv and Kyiv Region]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/grant-na-zakupivlu-obladnanna-ta-materialiv-dla-mikro-biznesu-u-m-kiiv-ta-kiivskij-oblasti>
- “Hrantova prohrama MOM dlia postrazhdalikh vid viiny mikro- ta malykh pidpriemstv v Ukraini” [IOM Grant Program for War-affected Micro and Small Enterprises in Ukraine]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/grantova-programa-mom-dla-postrazhdalih-vid-vijni-mikro-ta-malih-pidpriemstv-v-ukraini>
- “Hranty dlia malykh ta serednikh zhinochykh ta sim-einykh pidpriemstv” [Grants for Small and Medium Women's and Family Enterprises]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/granti-dla-malih-ta-serednih-zinocih-ta-simejnih-pidpriemstv>
- “Hranty dlia pidtrymky malykh ta serednikh pererobnykh pidpriemstv” [Grants to Support Small and Medium-sized Processing Enterprises]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/granti-dla-pidtrimki-malih-ta-serednih-pererobnih-pidpriemstv>
- “Hranty do 400 000 hryven na rozvytok biznesu dlia MSP z oblastei boiovykh dii” [ENGLISH_UA Grants of Up to 400,000 Hryvnias for Business Development for SMEs from War Zones]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/granti-do-400-000-griven-na-rozvitok-biznesu-dla-msp-z-oblastej-bojovih-dij>
- “Hranty v mezhakh prohramy PEARL dlia pidtrymky biznesu, shcho postrazhdav vid viiny” [Grants Within the Framework of the PEARL Program to Support Businesses Affected by the War]. Diia. Biznes. 2024. <https://business.diia.gov.ua/cases/granti/granti-v-mezah-programi-pearl-dla-pidtrimki-biznesu-so-postrazhdav-vid-vijni>
- “Kliuchovi polityky ta zakhody dlia pidtrymky ahrarnoho sektoru Ukrainy v umovakh voiennoho stanu” [Key Policies and Measures to Support the Agricultural Sector of Ukraine Under Martial Law]. NISD. 2024. <https://niss.gov.ua/doslidzhennya/ekonomika/klyuchovi-polityky-ta-zakhody-dlya-pidtrymky-ahrarynoho-sektoru-ukrayiny-v>
- Kovalska, L. et al. “Correlation analysis of profitability in the management system of agricultural enterprises on the basis of sustainable development”. Management, Economic Engineering in Agriculture and Rural Development. 2021. https://managementjournal.usamv.ro/pdf/vol.21_4/volume_21_4_2021.pdf
- Kozoriz, V. “Vudky zamist ryby. FAO rozshyriuie prohramu humanitarnoi dopomohy silskomu naselenniu Kharkivshchyny” [Fishing Rods Instead of Fish. FAO Expands the Program of Humanitarian Assistance to the Rural Population of Kharkiv Region]. Uriadovyi kurier. 2023. <https://ukurier.gov.ua/uk/articles/vudki-zamist-rybi/>
- Kudinova, M., and Rubaiko, M. “Mekhanizmy mizhnarodnoi pidtrymky zovnishnoekonomichnoi diialnosti ahrarnykh pidpriemstv v Ukraini” [Mechanisms of International Support for Foreign Economic Activity of Agricultural Enterprises in Ukraine]. *Ekonomika ta suspilstvo*, no. 57 (2023). DOI: <https://doi.org/10.32782/2524-0072/2023-57-35>
- Melnykov, O. V., Petrukha, S. V., and Petrukha, N. M. “Ekonomichne vidnovlennia silskykh terytorii: spivvidnoshennia fundamentalnoho ta prykladnoho aspektiv naukovoho doslidzhennia” [Economic Recovery of Rural Areas: The Ratio of Fundamental and Applied Aspects of Scientific Research]. *Vcheni zapysky Universytetu «KROK»*, no. 1(61) (2021): 176-193. DOI: <https://doi.org/10.31732/2663-2209-2021-61-176-193>
- “Prohrama pidtrymky ekonomichnoi stiiakosti Ukrainy (UERP)” [Ukraine Economic Stability Support Program (UERP)]. Mercy Corps UERP. 2024. <https://uerp.mercycorps.org/>
- “Prohrama USAID AHRO nadast mineralni dobrovya dlia 7000 ukrainskykh ahrovyrobnikiv na vesnianu posivnu 2024” [The USAID AGRO Program Will Provide Mineral Fertilizers for 7,000 Ukrainian Agricultural Producers for Spring Sowing in 2024]. Ministerstvo ahrarnoi polityky ta prodovolstva Ukrainy. <https://minagro.gov.ua/news/programa-usaid-agro-nadast-mineralni-dobryva-dlya-7000-ukrayinskih-agrovirobnikiv-na-vesnyanu-posivnu-2024>
- Petrukha, N. M., and Petrukha, S. V. *Derzhavne rehu-livannia intehrovanykh korporatyvnykh obiednan v umovakh strukturno-instytutsionalnoi ta funktsionalnoi transformatsii silskoi ekonomiky: problemy metodolohii, teorii, sotsialno-ekonomichnoi ta sektoralnoi polityky* [State Regulation of Integrated Corporate Associations in Conditions of Structural-institutional and Functional Transformation of the Rural Economy: Problems of Methodology, Theory, Socio-economic and Sectoral Policy]. Kyiv: TOV «Vydavnychiy dim «Professional»», 2020.
- Petrukha, S. V., and Petrukha, N. M. “Ahrarnyi sektor ekonomiky: viziia finansovoho kontekstu dosiahnennia Tsilei staloho rozvytku” [The Agricultural Sector of the Economy: A Vision of the Financial Context for Achieving the Sustainable Development Goals]. *Oblik i finansy*, no. 4 (2023): 143-155. DOI: [https://doi.org/10.33146/2307-9878-2023-4\(102\)-143-155](https://doi.org/10.33146/2307-9878-2023-4(102)-143-155)
- Ryzhakova, G. et al. “Agro-Food Value Added Chains: Methodology, Technique and Architecture”. *Financial and Credit Activity: Problems of Theory and Practice*, vol. 4 (45) (2022): 385-395. DOI: <https://doi.org/10.55643/fcaptop.4.45.2022.3809>

Shostak, L., Behun, S., and Ulianytskyi, A. "Analiz rynku kharchovoi promyslovosti u voiennyi period" [Analysis of the Food Industry Market During the War Period]. *Ekonomika ta suspilstvo*, no. 63 (2024). DOI: <https://doi.org/10.32782/2524-0072/2024-63-96>

Shubalyi, O. M. et al. "Finansovo-ekonomichne stymulivannia rozvytku pererobnoi promyslovosti na osnovi pryrodno-resursnoho potentsialu rehioniv u poviennyi period" [Financial and Economic Stimulation of the Development of the Processing Industry on the Basis of the Natural Resource Potential of the Regions in the Post-war Period]. *Finansy Ukrainy*, no. 3 (2023): 55-74.

DOI: <https://doi.org/10.33763/finukr2023.03.055>

Shubalyi, O. M. et al. "Formuvannia systemy informatsiino-analitychnoho zabezpechennia rozvytku biopalyvnykh vyrobnytstv na bazi pidpriemstv ahrosektoru" [Formation of a System of Information and Analytical Support for the Development of Biofuel Production on the Basis of Agricultural Sector Enterprises]. *Naukovi pratsi NDFI*, no. 3 (2023): 133-147. DOI: <https://doi.org/10.33763/npndfi2023.03.133>

Sokolovska, O. et al. "The Impact of Military Actions on Food and Labor Security". *International Journal of Computer Science and Network Security*, vol. 22, no. 6 (2022): 582-588. DOI: <https://doi.org/10.22937/IJCSNS.2022.22.6.72>

"U 8 oblastiakh Ukrainy zapratsiyuv konsultatsiinyi Tsentр rozvytku fermerstva" [The Consultative Center for the Development of Farming Has Become Operational in 8 Regions of Ukraine]. 2024. <https://www.prostir.ua/?news=u-8-oblastyah-ukrajiny-zapratsiyuv-konsultatsiinyj-tsentр-rozvytku-fermerstva>

"Zhnyva nadii: Yak Silske Hospodarstvo Rozvyvaetsia V Ukraini V Umovakh Viiny" [Harvest of Hope: How the Rural Economy Develops in Ukraine in the Conditions of War]. EOS. 2024. <https://eos.com/uk/harvesting-hope-standing-with-ukraine/>

"Zvit shchodo otrymuvachiv derzhavnoi pidtrymky v haluzi APK" [Report on Recipients of State Support in the Agricultural Sector]. Ministerstvo ahrranoi polityky ta prodovolstva Ukrainy. <https://minagro.gov.ua/investoram/monitoring-stanu-apk/eksport-z-ukrayinizernovihzernobobovih-ta-boroshna>

УДК 662.767.2

JEL Classification: Q42

DOI: <https://doi.org/10.32983/2222-4459-2024-10-205-216>

ВИКОРИСТАННЯ ЕНЕРГЕТИЧНОГО ПОТЕНЦІАЛУ ВІДХОДІВ АПК ДЛЯ ПІДВИЩЕННЯ СТІЙКОСТІ ЕНЕРГОЗАБЕЗПЕЧЕННЯ ПІДПРИЄМСТВ*

© 2024 ТОКАРЧУК Д. М.

УДК 662.767.2

JEL Classification: Q42

Токарчук Д. М. Використання енергетичного потенціалу відходів АПК для підвищення стійкості енергозабезпечення підприємств

Обґрунтовано необхідність використання потенціалу відходів для виробництва біопалив з метою забезпечення надійного енергопостачання підприємств у сучасних турбулентних умовах атак енергетичної сфери й інших проблем, пов'язаних із повномасштабним вторгненням РФ. Метою статті є розробка рекомендацій щодо використання потенціалу відходів АПК на виробництво біопалив для надійного забезпечення потреб підприємств у енергетичних ресурсах. Досліджено проблеми у сфері енергопостачання в Україні в сучасних умовах, зокрема стрімке зростання цін на паливно-енергетичні ресурси з 2022 року. Розроблено поетапний процес сталого енергозабезпечення підприємств, де важливу роль відіграє застосування альтернативних джерел енергії, в тому числі біопалив. Визначено, що підприємства різних видів діяльності різняться за біоенергетичним потенціалом; підприємства сфери АПК мають найбільший потенціал виробництва різних видів біопалив з власної сировини (енергетичних культур і відходів). Відходи АПК мають значний потенціал для переробки на тверді біопалива та біогаз. Завдяки ширшим можливостям у енергетичному використанні кінцевих продуктів визначено анаеробну технологію переробки відходів з отриманням біогазу як оптимальну. Аналіз відходів рослинного та тваринного походження для виробництва біогазу показав, що сировинна база є досить широкою, а енергетичний потенціал – значним. Аналіз європейського досвіду у виробництві біогазу свідчить, що обсяги виробництва зростають, спостерігається тенденція до нарощування виробництва біометану – очищеного біогазу. Розроблено рекомендації щодо використання енергетичного потенціалу відходів АПК для підвищення стійкості енергозабезпечення підприємств, що містить: оцінку енергетичного потенціалу відходів підприємства, впровадження біогазових технологій, використання біомаси як палива, інтеграції відновлюваних джерел енергії, участь у державних програмах і грантах, розробку та реалізацію стратегії енергоефективності.

Ключові слова: енергозабезпечення підприємств, біопаливо, АПК, паливно-енергетичні ресурси, виробництво, енергетична сфера.

Рис.: 7. **Табл.:** 1. **Бібл.:** 15.

* Виконано в межах державної НДР Новітня концепція розвитку АПК України на засадах «зеленої економіки» (номер державної реєстрації 0124U000470)