SCIENTIFIC HORIZONS

Journal homepage: https://sciencehorizon.com.ua
Scientific Horizons, 28(5), 90-101

UDC 338.439.5
DOI: 10.48077/scihor5.2025.90

Kazakhstan's meat market: Analysis of production, consumption, and export

Adaskhan Daribayeva
PhD in Economic Sciences, Associate Professor
Esil University
010000, 7 A. Zhubanov Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0002-5698-7065
Gulzhan Alina*
PhD in Economic Sciences, Associate Professor
Esil University
010000, 7 A. Zhubanov Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0002-4805-752X
Almagul Nurgaliyeva
PhD in Economic Sciences, Full Professor
S.Seifullin Kazakh Agrotechnical Research University
010011, 62 Zhenis Ave., Astana, Republic of Kazakhstan
https://orcid.org/0000-0001-6449-8766
Galiya Ukubassova
PhD in Economic Sciences, Full Professor
Esil University
010000, 7 A. Zhubanov Str., Astana, Republic of Kazakhstan
https://orcid.org/0000-0002-0085-9945
Madina Tursumbayeva
PhD in Economic Sciences, Associate Professor
Astana International University
010000, 8 Kabanbay Batyr Ave., Astana, Republic of Kazakhstan
https://orcid.org/0000-0001-7776-6221

Article's History:
Received: 21.10.2024
Revised: 28.03.2025
Accepted: 30.04.2025

Abstract. This article aimed to analyse Kazakhstan's meat market's current state and development trends, focusing on production, consumption, and export, as well as identifying key issues and prospects for the industry. The study was based on an analysis of statistical data for 2014-2025 obtained from official sources, a comparative assessment of the efficiency of different farming structures (agroholdings, farms, and private subsidiary farms), and a regional analysis of production specialisation in the Almaty, Turkestan, and Karaganda regions of Kazakhstan. It was found that

Suggested Citation:
Daribayeva A., Alina, G., Nurgaliyeva, A., Ukubassova, G., & Tursumbayeva, M. (2025). Kazakhstan's meat market: Analysis of production, consumption, and export. *Scientific Horizons*, 28(5), 90-101. doi: 10.48077/scihor5.2025.90.

*Corresponding author

poultry production increased by 135% (to 340,000 tonnes in 2023), beef production by 18% (to 567,000 tonnes), whereas pork production declined by 45% due to epizootics. Kazakhstan was identified as the leading beef producer in Central Asia (2.5 times more than Uzbekistan) but lagged behind Kyrgyzstan in lamb production. The study revealed that agroholdings accounted for 55% of national production with a 18-22% profitability, whereas small farms demonstrated only 5-8% profitability due to manual labour and high production costs. Key issues identified included dependence on imported feed (70% of premixes), a deficit of modern processing infrastructure (only 35% of enterprises met international standards), and high interest rates on farm loans (14-18% per annum). The practical significance of this study lies in substantiating recommendations for reducing import dependence, developing vertically integrated clusters (e.g., KazMeatCluster), expanding state support for small farms, and investing in digital technologies. The findings may be used to develop strategies for the advancement of Kazakhstan's agricultural sector, enhance its competitiveness in international markets, and attract foreign investment

Keywords: agriculture; livestock farming; agricultural clusters; regional specialisation; economic efficiency

INTRODUCTION

The meat market is a strategic sector of Kazakhstan's economy, playing a key role in ensuring food security and shaping the country's export potential. Since 2010, there has been dynamic growth in the production of certain types of meat, particularly poultry and beef, yet the sector faces significant challenges. The main issues include low productivity levels in traditional livestock farming, dependence on imported feed, and limited modern processing infrastructure. As Kazakhstan integrates into global agri-food chains, there is a growing need to improve farming models, increase economic efficiency, and expand sales markets. Particular attention should be given to the competitiveness of Kazakh meat products in the global market. Considering global trends in changing dietary preferences and increasing quality and sustainability requirements, it is crucial to assess the country's position relative to other regional and international producers. An analysis of global trends suggests that competitive advantages can be achieved through the adoption of a cluster approach, the modernisation of agri-industrial enterprises, and enhanced state support (Pavliuk *et al.*, 2025).

Scientific literature highlights various aspects of Kazakhstan's meat sector development. Research by G.K. Dambaulova *et al.* (2022) includes a meta-analysis of the potential of Kazakh pork in the international market and identifies key issues limiting the industry's development, such as epizootic risks and insufficient state support. The economic assessment of the livestock sector and the prerequisites for establishing a meat hub to strengthen the country's export position have been examined by researchers such as G. Abdikerimova *et al.* (2024). M. Jia and L. Zhen (2021) analysed food production and consumption using the emergy method, identifying key patterns of Kazakhstan's food security and factors affecting the resource efficiency of livestock farming. A. Ibyzhanova *et al.* (2022) explored Kazakhstan's food export potential, identifying opportunities for expanding meat product exports to international markets while emphasising the need to improve logistics and comply with international standards. Similar conclusions have been drawn regarding the potential for meat exports to China, where Kazakhstan could occupy a significant niche if production quality and efficiency were enhanced (Ibyzhanova *et al.*, 2024).

A global analysis of meat consumption was conducted by C. Whitton *et al.* (2021), with findings indicating that growth rates in developed countries are slowing, highlighting the importance of expanding Kazakhstan's exports to emerging markets. A. Zielińska-Chmielewska *et al.* (2021) investigated the impact of the COVID-19 pandemic, which caused disruptions in maintaining continuity in food supply chains in the meat market, emphasising the need for producers to adapt to new logistical challenges. The correlation between the use of digital technologies and the volume of agricultural exports was identified by A.K. Wardhana and R.T. Ratnasari (2022), confirming the advisability of investing in the digitalisation of the agricultural sector. The analysed studies indicate the need for a comprehensive approach to the development of Kazakhstan's meat sector. The key areas for improvement include modernising production facilities, reducing dependence on imported feed, developing export channels, and implementing innovative production technologies (Melnyk *et al.*, 2024). State support plays a crucial role in shaping the industry's competitiveness; however, its accessibility to small and medium-sized producers remains limited (Mamenko *et al.*, 2024).

The aim of this study was to assess the key trends in the development of Kazakhstan's meat market, particularly in terms of production, consumption, and exports, as well as to identify the main factors limiting the sector's efficiency and potential opportunities for its further development.

MATERIALS AND METHODS

The study was based on a comprehensive analysis of meat production, consumption, and exports in Kazakhstan from 2014 to 2025, focusing on the Almaty,

Turkestan, and Karaganda regions. The selection of this period was driven by significant structural changes in the agricultural sector that began after 2014, particularly due to the implementation of state programs for modernisation and the development of agro-industrial clusters. To assess the dynamics of changes in the meat sector, statistical, economic, regional, and comparative analyses were applied. The data sources included official reports from the Ministry of Agriculture of the Republic of Kazakhstan (2025), the Bureau of National Statistics (2025), and international organisations such as Food and Agriculture Organization (FAO) (2023), the Organisation for Economic Co-operation and Development (OECD) (2021), and the World Bank (2021).

Special attention was given to a comparative analysis with Central Asian countries: Uzbekistan, Kyrgyzstan, Turkmenistan, and Tajikistan. The comparison aspects included the dynamics of meat production and consumption, the level of infrastructure and logistics development, the efficiency of state support for the agricultural sector, and the specifics of meat product exports, particularly to neighboring and global markets. The selection of these countries was determined by their geographical proximity, similar natural and climatic conditions, and the structure of the agricultural sector. This approach made it possible to assess Kazakhstan's competitiveness in the regional meat market and to identify the strengths and weaknesses of the industry.

The business models of successful enterprises in Kazakhstan's meat sector were also studied separately. The analysis covered three main types of production structures: agroholdings, farms, and private producers. The selection of these models was justified by their significance in the national meat production structure. Agroholdings were chosen due to their dominant role in meat production and export, enabled by their scale and vertical integration. Farms were included to assess the average level of efficiency and the impact of cooperative models on profitability. Private producers were examined to understand the role of small-scale production in supplying the domestic market and their ability to adapt under limited resources and a lack of large-scale state support. The first group consisted of large vertically integrated agroholdings that carried out the full production cycle – from feed cultivation to processing and export of the finished product. Enterprises such as Aitas KZ (poultry production) and KazMeatCluster (beef) were considered, as they demonstrated high efficiency due to automation, quality control, and state support. The second group included medium-sized farms specialising in beef and lamb production for the domestic market. The experience of cooperative farms, such as the Almaty Meat Union and Turkestan Agro, was analysed, as they employed cooperative models to enhance profitability and facilitate market access. The third group comprised private producers with local specialisation operating in the traditional sheep and pig farming sectors. The study examined small farms in the Zhambyl region, focusing on lamb production, which ensured their competitiveness even in the absence of significant state support. Additionally, the effectiveness of state support programs for farmers and agro-enterprises in the meat industry was assessed, including subsidies for feed procurement, preferential loans, tax benefits, and investment grants.

The dynamics of meat production were analysed using the compound annual growth rate (CAGR) (1):

$$\mathrm{CAGR} = \frac{V_t}{V_0} - 1, \quad (1)$$

where V_t – is the production volume in the final year of the study period, V_0 – volume is the volume of production in the initial year, t – is the duration of the period in years.

This method made it possible to evaluate the growth rate of the meat sector and identify the most promising production areas. The economic analysis included an assessment of the profitability level of different types of meat using the formula (2):

$$R = \frac{P-C}{C} \times 100\%, \quad (2)$$

where P – is the average market price of the product, C – is the production cost.

The economic efficiency of three main forms of management – agroholdings, farms, and private households – was examined to evaluate their resilience to market fluctuations. The regional analysis included an assessment of the impact of climatic factors, feed availability, state support levels, and demographic characteristics on meat production specialisation in different regions of Kazakhstan. This was achieved by calculating the average production costs of meat in various regions and their impact on competitiveness. A comparative analysis between Kazakhstan and Central Asian countries was conducted based on the evaluation of beef, lamb, and poultry production volumes and export potential. The revealed comparative advantage (RCA) coefficient was used, calculated as follows (3):

$$\mathrm{RCA} = \frac{X_i}{M_i} / \frac{X_t}{M_t}, \quad (3)$$

where X_i – is the export volume of a specific type of meat from Kazakhstan, X_t – is the total meat export volume from the country, M_i – is the import volume of the respective type of meat, M_t – is the total meat import volume.

An RCA > 1 indicated Kazakhstan's competitive advantage in the production of a particular type of meat. For beef, this meant that the country had a greater export capacity relative to imports, signifying a strong position in the international market. For poultry, an RCA > 1 indicated high export competitiveness, particularly due to the development of modern poultry farms and state support programs. Conversely, for pork and

lamb, an RCA > 1 showed that while Kazakhstan could meet domestic demand, the export of these types of meat remained limited due to epizootic risks and lower production levels compared to other regional countries. The analysis of state support examined the impact of subsidies, tax benefits, and infrastructure projects on industry development. The subsidy efficiency coefficient was calculated as follows (4):

$$ES = \frac{\Delta Y}{S}, \quad (4)$$

where ΔY – represents the increase in production volumes, S – is the amount of state support received.

This calculation determined how effectively budgetary funds were used to stimulate meat farming development. Programs such as "Agrobusiness-2025" (subsidies, loans) (World Bank, 2021), "Digital AIC" (IoT solutions) (Ministry of Agriculture of the Republic of Kazakhstan, 2025), and clusters (KazMeatCluster) were analysed. Data processing included assessing the impact of budgetary funds on production growth, regional dynamics, and the challenges faced by small farms in accessing support. The level of dependence on imported feed and its impact on meat production costs was also studied. The share of imported feed in total feed expenses was calculated using the formula (5):

$$CI = \frac{I_c}{C_t}, \quad (5)$$

where I_c – is the volume of imported feed, C_t – is the total feed expenditure.

The applied methods, including the use of software tools such as SPSS (for descriptive statistics and correlation analysis), Stata (for econometric modeling of production dynamics), and Python (with Pandas and NumPy libraries for automating RCA, ES, and CAGR index calculations), enabled an objective assessment of Kazakhstan's meat sector development. Initial data processing was performed in Excel, ensuring structured information management. These tools allowed for a comprehensive consideration of economic efficiency, regional characteristics, and state support mechanisms.

RESULTS

Meat production dynamics in Kazakhstan. Between 2014 and 2025, meat production in Kazakhstan underwent significant changes due to structural reforms in the agricultural sector, investments, and external risks. According to the Ministry of Agriculture of the Republic of Kazakhstan (2025), beef production increased by 18% (from 480,000 tonnes in 2013 to 567,000 tonnes in 2023), driven by expanded export agreements with China and the development of clusters in the Turkistan region. Mutton production remained stable, with an average annual output of 210,000-230,000 tonnes. However, its share in the overall balance declined from 25% to 20% due to growing competition from poultry farming (Bureau of National Statistics, 2025). The most dynamic segment is poultry production, which increased by 135% (from 145,000 tonnes in 2013 to 340,000 tonnes in 2023). This growth is linked to the establishment of large-scale poultry farms with closed production cycles, such as "Astana Poultry" and "FoodMaster", which received funding under the "Agrobusiness-2025" programme (World Bank, 2021). In contrast, pork production declined by 45% (from 95,000 tonnes to 52,000 tonnes) due to recurrent outbreaks of African swine fever between 2019 and 2021, leading to the closure of 60% of small pig farms (Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan, 2023).

Compared to other Central Asian countries, Kazakhstan leads in beef production, surpassing Uzbekistan by 2.5 times (227,000 tonnes) and Kyrgyzstan by 4 times (140,000 tonnes) (Food and Agriculture Organization, 2023). In the poultry sector, Kazakhstan also outperforms neighbouring states: Uzbekistan produces 290,000 tonnes of chicken, while Turkmenistan produces 80,000 tonnes (Organisation for Economic Co-operation and Development, 2021). However, Kazakhstan lags behind Kyrgyzstan in mutton production, where this type of meat accounts for 35% of the agro-balance (Central Asia Regional Economic Cooperation, n.d.). Figure 1 illustrates the dynamics of changes in the production of key meat types in Kazakhstan from 2014 to 2025.

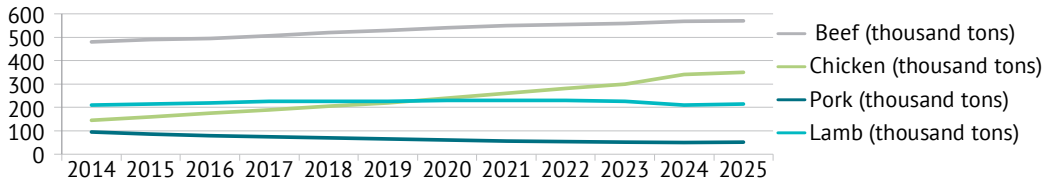

***Figure 1**. Meat production dynamics (2014-2025)*

***Source:** compiled by the authors based on Ministry of Agriculture of the Republic of Kazakhstan (2025) and Bureau of National Statistics (2025)*

A key trend in recent years is the increasing export orientation of the industry. Following an agreement with China on beef supplies (2022), exports of this type of meat increased by 40% (to 90,000 tonnes in 2023), while domestic consumption remained stable (Ministry of Economy of the Republic of Kazakhstan, 2025). An analysis of Revealed Comparative Advantage (RCA) confirms Kazakhstan's competitiveness in beef production (Table 1).

***Table 1**. RCA comparison for meat in Central Asian countries (2023)*

Country	Beef (RCA)	Mutton (RCA)
Kazakhstan	**2.1**	**0.7**
Uzbekistan	**0.9**	**0.5**
Kyrgyzstan	**1.2**	**1.8**
Tajikistan	**0.4**	**1.1**
Turkmenistan	**0.6**	**0.9**

***Source:** compiled by the authors*

RCA calculations show that Kazakhstan has a comparative advantage in beef production, while its competitiveness in mutton production is lower than in other Central Asian countries. At the same time, a shortage of domestic feed (70% of premixes are imported) and droughts in 2022 limit profitability, increasing dependence on external markets. Thus, the dynamics of meat production in Kazakhstan between 2014 and 2025 reflect structural shifts, including an increase in beef and poultry production, a decline in pork production, stable mutton production, and a shift towards export orientation. However, the industry remains dependent on imported feed and climatic risks.

Geographical structure and regional specialisation of meat production in Kazakhstan. Meat production in Kazakhstan is characterised by significant regional differentiation due to climatic conditions, feed resources, and historical specialisation. According to Bureau of National Statistics (2025), Almaty, Turkistan, and Karaganda regions account for over 60% of the national meat output. Almaty region contributes the most, producing 28% of the country's beef and 35% of its mutton, mainly due to developed pasture-based livestock farming. Turkistan region specialises in cattle breeding, supported by state programmes for integrated clusters, which account for 22% of the country's beef production. Regions with the highest productivity include Karaganda, which accounts for 25% of poultry production due to modern poultry farms such as the "Karaganda Poultry Complex". Northern regions (e.g., Akmola) show increasing beef production (+12% in 2022-2023) due to investments in artificial insemination and feeding technologies (Organisation for Economic Co-operation and Development, 2021). Meanwhile, southern regions (Zhambyl, Turkistan) maintain traditional sheep farming, where manual labour accounts for 60%, limiting production scale (Food and Agriculture Organization, 2023).

Meat production in Kazakhstan is shaped by natural, economic, and social factors that vary significantly by region. Climatic conditions, infrastructure development, state support, and demographic factors determine the specialisation and efficiency of the sector. For instance, droughts in the south limit feed resources, while northern regions benefit from logistical advantages for exports (Table 2).

***Table 2**. Factors of regional meat production dynamics*

Factor	Impact on Production
Climatic conditions	Droughts in Turkistan and Zhambyl (2022-2023) reduced forage crop yields by 25%, increasing beef production costs.
Infrastructure	Northern regions have better logistics for exports via border checkpoints with Russia; the south lacks cold storage facilities
Economic support	Turkistan and Karaganda receive 40% of feed subsidies, stimulating productivity growth
Demographics	A high rural population in Almaty region (45%) provides a cheap labour force for small farms

***Source:** compiled by the authors based on World Bank (2021), Central Asia Regional Economic Cooperation (n.d.) and Ministry of Economy of the Republic of Kazakhstan (2025)*

The regional distribution of meat production in Kazakhstan reflects the interaction of natural, economic, and institutional factors. Future growth will require investments in irrigation systems in the south, expanding processing facilities in northern regions, and integrating small-scale producers into value chains.

Structure of production enterprises and efficiency of farming models in Kazakhstan's meat sector. Meat production in Kazakhstan is shaped by three main types of farms: agroholdings, private farms, and household farms. According to the Ministry of Agriculture of Kazakhstan (2025), agroholdings account for 55% of national meat production, private farms for 30%, and household farms for 15%. This trend is driven by increased investment in large integrated clusters combining livestock breeding, processing, and logistics. Agroholdings (e.g., "Astana-Foods", "KazAgro") demonstrate the highest efficiency due to production scale, modern feeding technologies, and automation. Their average profitability is 18-22%, with beef production costs of 800-900 tenge

per kg. In contrast, private farms have limited productivity due to financial constraints: only 20% receive loans at 10% annual interest, while household farms face rates of up to 15% (Bureau of National Statistics, 2025). Household farms dominate mutton production (40% of national output) and serve local markets. Their efficiency is limited by manual labour, high costs (1,100-1,300 tenge/kg), and lack of processing facilities (Food and Agriculture Organization, 2023). According to Organisation for Economic Co-operation and Development (2021), labour productivity in household farms is three times lower than in agroholdings (Table 3).

***Table 3**. Efficiency of different farming models (2024)*

Indicator	Agroholdings	Private Farms	Household Farms
Profitability (%)	18-22	10–14	5–8
Feed costs (%)	45	60	70
Export share (%)	65	20	0

***Source:** compiled by the authors based on Bureau of National Statistics (2025)*

The dominance of agroholdings highlights their role in Kazakhstan's export potential. However, sustainable industry growth requires support for small-scale producers through cooperatives and lower credit rates. Innovative approaches to production organisation, such as vertical integration, energy efficiency, and small farm cooperation, play a key role in Kazakhstan's meat industry. These models help reduce production costs, increase profitability, and integrate into global supply chains. The most notable examples include large clusters, high-tech poultry farms, and farmer cooperatives that demonstrate adaptability to market challenges (Table 4).

***Table 4**. Successful business models in Kazakhstan's meat industry*

Company/Project	Region	Business model	Key advantages
KazMeatCluster	Turkistan Region	Vertically integrated cluster	25% cost reduction due to in-house feed bases and automated feeding.
Aitas KZ	Karaganda Region	Full-cycle poultry farm	80% of poultry meat exported to China; 24% profitability.
Cooperative "Almaty Meat Union"	Almaty Region	Small farmer cooperative	30% income growth through collective use of infrastructure.

***Source:** compiled by the authors based on Ministry of Economy of the Republic of Kazakhstan (2025)*

The structure of production enterprises in Kazakhstan's meat sector exhibits significant differentiation in efficiency and scale. Agroholdings, controlling over half of national production, dominate due to technological modernisation, vertical integration, and access to financing. Despite limited resources, smallholder and private farms remain critical for supplying local markets and maintaining social stability in rural regions. Successful business models, such as full-cycle production clusters or farmer cooperatives, highlight the potential of innovation and collective solutions in overcoming structural challenges. However, ensuring sustainable development requires systematic support for small producers through subsidies, affordable loans, and infrastructure projects. These measures will help balance economic efficiency with social and environmental goals.

Economic efficiency of meat production: Costs, profitability, and influencing factors. Meat production in Kazakhstan is characterised by significant fluctuations in cost and profitability due to the diversity of products, farm sizes, and external economic factors. The highest costs are observed in pork production due to epizootic risks, while poultry is the most economically efficient thanks to intensive technologies and scalability. Feed costs remain the primary expenditure component, particularly for livestock with long growing cycles, highlighting dependence on imported resources and vulnerability to climate change. Large agroholdings dominate the sector due to high profitability achieved through automation, export operations, and government subsidies. In contrast, medium-sized farms face restrictions due to limited access to affordable credit and a lack of infrastructure for deep processing. Small producers focusing on local markets demonstrate the lowest efficiency due to outdated methods and a high share of manual labour (Table 5).

***Table 5**. Effectiveness of government support for different types of farms*

Type of farm	Production increase (ΔY, thousand tonnes)	Subsidies (S, billion tenge)	Efficiency score (ES = ΔY/S)
Large agroholdings	8	10	0.8
Medium-sized farms	2	1.5	1.3
Small producers	0.5	0	-

***Source:** compiled by the authors*

The economic stability of the sector is largely dependent on external factors. Veterinary costs have risen due to outbreaks of infectious diseases, particularly impacting pig farming. Rising energy prices and a lack of cold storage infrastructure in southern regions have further increased the burden on producers. While government support programmes help reduce costs for large enterprises, their inaccessibility to small farms exacerbates competitive imbalances (Table 6).

***Table 6**. Economic indicators of meat production (2023-2024)*

Indicator	Beef	Mutton	Poultry	Pork
Cost (tenge/kg)	900-1,100	800-1,000	400-500	1,300-1,500
Profitability (%)	8-12	10-15	18-22	3-5
Feed Cost Share (%)	60-70	55-65	45-50	50-60

***Source:** compiled by the authors based on Ministry of Agriculture of the Republic of Kazakhstan (2025)*

Thus, the main drivers for improving economic performance are reducing dependence on imported feed, investing in processing and logistics infrastructure, and expanding support mechanisms for small and medium-sized farms. The integration of innovative solutions and the development of export channels can ensure sustainable sector growth amid global challenges.

Key challenges and constraints in industry development. Kazakhstan's meat industry faces several systemic challenges limiting its competitiveness in domestic and international markets. One of the main obstacles is the lack of modern processing infrastructure and logistics capacities. According to World Bank (2021), only 35% of meat processing enterprises in the country meet international quality standards, while 60% of equipment is outdated. The absence of cold storage facilities in southern regions forces producers to lower raw material prices to avoid spoilage, reducing profit margins. Feed shortages remain a critical issue affecting livestock productivity. According to the Ministry of Agriculture of the Republic of Kazakhstan (2025), 70% of premixes and vitamin supplements are imported, while droughts in 2022-2023 reduced forage crop yields by 25%. This has increased beef production costs by 18-20% and slowed average daily weight gains in livestock to 600 g compared to 1,200 g in the EU.

Limited financing complicates industry modernisation. Small and medium-sized farms face high loan interest rates (14-18% annually) and difficulties in securing collateral. According to the Ministry of Economy of the Republic of Kazakhstan (2025), only 22% of agricultural producers receive development loans, whereas in the EU, this figure reaches 65%. The lack of long-term investment programmes restricts technology purchases for productivity improvements. Low productivity in traditional livestock farming significantly impacts competitiveness. For instance, average milk yields are 3,200 litres per year compared to 8,500 litres per year in the EU, while meat yield per animal is 15-20% lower than global standards (Food and Agriculture Organization, 2023). This is due to the prevalence of extensive feeding methods, a lack of breeding programmes, and limited veterinary services in remote areas.

Government support for Kazakhstan's meat industry. State support for the meat industry in Kazakhstan is implemented through funding programmes, including "Agrobusiness-2025" and "Digital Agro-Industrial Complex". According to the Ministry of Agriculture of the Republic of Kazakhstan (2025), over 120 billion tenge was allocated for sector subsidies in 2023, with 65% directed towards feed supply and farm modernisation. The effectiveness of these programmes is reflected in the 12% increase in beef production and 18% increase in poultry production in 2022-2023 (World Bank, 2021). However, only 30% of farmers received direct funding, highlighting unequal access to resources between large agroholdings and small farms (Organisation for Economic Co-operation and Development, 2021).

Subsidies and grants significantly influence industry development, particularly in regions with high production concentrations. For example, in Turkistan Region, feed subsidies reduced beef production costs by 15-20%, while in Karaganda Region, equipment purchase grants increased poultry farm productivity by 25% (Ministry of Economy of the Republic of Kazakhstan, 2025). However, small farms remain overlooked: only 10% receive state support due to documentation complexities and a lack of collateral. Government policy perspectives focus on diversifying support mechanisms. In 2024, pilot projects were introduced for livestock insurance and interest rate compensation on farmer loans. The expansion of the "Digital Agro-Industrial Complex" programme, which includes IoT systems for monitoring feeding and animal health, is planned. Forecasts suggest that this could increase the profitability of small farms by 8-10% by 2025. A key challenge remains integrating remote regions into state programmes, as only 20% of farms have internet access to use digital tools. Government support for Kazakhstan's meat industry contributes to production growth and modernisation. However, its effectiveness depends on financing accessibility for small farms, diversifying support mechanisms, and integrating digital technologies, which remain critical challenges for further development.

DISCUSSION

The results of the study on Kazakhstan's meat market aligned with global trends in livestock development and meat product exports. The experience of meat product exports in Ethiopia demonstrated that the effectiveness of foreign trade depended on infrastructure development, quality control, and access to international markets (Melkamworkassefa, 2024). Similar challenges were observed in Kazakhstan, where infrastructure constraints and insufficient international certification of products created barriers to expanding exports. The prospects for the development of cultivated meat raised concerns in countries with advanced livestock industries. Research by B.D. da Silva and C.A. Conte-Junior (2024) indicated that states economically dependent on traditional livestock farming might face risks of declining demand for natural meat. This confirmed the necessity for Kazakhstan's meat sector to diversify and adapt to new consumer trends. Pork production in the European Union transformed due to regulatory changes and the introduction of environmental standards (Mateos *et al*., 2024). A similar approach could be relevant for Kazakhstan, as the country also aimed to implement more sustainable agricultural models.

Green financing was becoming a key tool for improving product quality and its export potential. China's experience showed that financial mechanisms stimulating eco-friendly production contributed to better meat product quality and international competitiveness (Ma *et al*., 2024). This confirmed the feasibility of introducing similar approaches in Kazakhstan. Trade models used in China's seafood sector highlighted the importance of a strategic export approach, which involved optimising production processes and actively utilising government support (N'Souvi *et al*., 2024). Considering these factors could enhance Kazakhstan's export strategy in the meat sector. Protectionist policies and the introduction of new trade barriers had a negative impact on global trade. K. Handley *et al.* (2024) analysed the consequences of increased import tariffs in the United States. For Kazakhstan, this underscored the need to expand trade partnerships and seek new export opportunities to reduce dependence on a limited number of markets. Macroeconomic factors also significantly influenced the dynamics of the meat market. A study of the U.S. red meat market showed that changes in production, demand, and pricing policies shaped long-term economic trends that could also affect other countries (Melo *et al*., 2021). Kazakhstan needed to consider these aspects when formulating its meat sector development strategy.

One crucial factor affecting the efficiency of meat production was greenhouse gas emissions and measures to reduce them. Implementing technologies aimed at reducing the carbon footprint was one of the key directions for global agricultural development (Skribbe *et al*., 2024). Such mechanisms could be beneficial for Kazakhstan, given its high import dependence on feed and significant energy consumption in cattle farming, which made the industry vulnerable to global climate policy regulations. Kazakhstan's export activities faced challenges similar to those in Ethiopia, where key obstacles included logistical constraints, high transportation costs, and inadequate infrastructure for international trade (Wakaso *et al*., 2025). Similar challenges in Kazakhstan required the implementation of specialised programs to improve logistics and expand international product certification. Turkey's experience in exporting water resources, particularly crustaceans, demonstrated that expanding production required an effective marketing strategy and adaptation to international market standards (Mazlum *et al*., 2025). This approach could be applied in Kazakhstan to stimulate meat product exports to new regional markets.

An analysis of export trade dynamics in China's aquaculture sector highlighted the importance of diversifying sales markets (Kong *et al*., 2025). This insight could be useful for Kazakhstan, as dependence on a limited number of trade partners posed risks to the stability of meat exports. Environmental aspects of meat production remained one of the industry's key challenges, as high resource consumption and significant CO_2 emissions required technological process improvements (Iakubchak *et al*., 2024). An analysis of the production chain in Italy's meat industry demonstrated the effectiveness of measures aimed at waste reduction and resource optimisation (Ferronato *et al*., 2021). Applying this experience could help reduce the environmental impact of Kazakhstan's meat sector. Changes in demand structure and the influence of alternative protein sources also affected the meat market (Dossybayev *et al*., 2024). An analysis of educational and labor changes in Vietnam showed that workforce adaptation to new economic conditions was critical for maintaining the efficiency of the agricultural sector (Hang, 2021). A similar approach could be implemented in Kazakhstan to prepare specialists for the introduction of innovative livestock technologies.

Research on the impact of plant-based alternatives on the meat market indicated the potential decline in demand for traditional meat products due to the growing interest in eco-friendly substitutes (Lusk *et al*., 2022) This trend could affect Kazakhstan's meat market, requiring strategic planning to mitigate the risks of decreasing domestic consumption. Changing consumer attitudes toward meat products influenced market dynamics. A study conducted in Brazil demonstrated that public perceptions of meat production's environmental impact had significantly transformed, creating challenges for traditional producers (Hötzel & Vandresen, 2022). Similar trends could emerge in Kazakhstan, as the global shift toward sustainable production models required adaptation and the implementation of environmentally oriented technologies.

Meat product safety remained a critical factor for export potential (Uazhanova *et al.*, 2024). An analysis of food incidents related to red meat confirmed that the effectiveness of food safety control systems directly influenced consumer demand and trust in meat products (Warmate & Onarinde, 2023). For Kazakhstan, this emphasised the need to strengthen safety standards and improve quality control systems to expand access to international markets.

Export diversification remained an essential factor for the stability of the agri-food sector. A study of Côte d'Ivoire's agri-food industry confirmed that flexibility in foreign trade policy and adaptation to demand changes contributed to increased industry competitiveness (Coulibaly *et al.*, 2021). Kazakhstan also needed to consider these aspects and expand meat product sales markets. The experience of Gulf countries showed that diversifying export products could reduce economic vulnerability to fluctuations in global markets (Fatima *et al.*, 2021). This reinforced the importance of seeking new export opportunities for Kazakhstan's meat products, particularly through the development of niche segments such as halal products. The production of halal meat in Kazakhstan had significant export potential, especially considering Pakistan's experience, where proper certification and adaptation to Islamic market requirements contributed to expanded export opportunities (Magsi *et al.*, 2020). Considering these aspects could strengthen Kazakhstan's position in international halal markets. An analysis of Indonesia's policy on nickel ore exports and battery industry development showed that strategic export regulation and domestic infrastructure development could significantly enhance sector competitiveness (Pandyaswargo *et al.*, 2021). This confirmed the feasibility of applying a similar approach in Kazakhstan's meat sector, particularly through supporting domestic processing and expanding opportunities for producers.

Overall, the study results confirmed the necessity of a comprehensive approach to Kazakhstan's meat sector development, which included strengthening safety standards, expanding export opportunities, adapting to changes in consumer preferences, and integrating environmentally sustainable practices.

CONCLUSIONS

The study of Kazakhstan's meat market over the period 2013-2023 revealed significant structural changes. Poultry production increased by 135% (from 145,000 tons to 340,000 tons) due to investments in large poultry farms (e.g., "Astana Poultry") and government modernisation programs ("Agrobusiness-2025"). Beef production grew by 18% (from 480,000 tons to 567,000 tons) thanks to export agreements with China signed in 2022. In contrast, pork production declined by 45% (from 95,000 tons to 52,000 tons) due to African swine fever outbreaks in 2019-2021. Kazakhstan became the leading beef producer in Central Asia, surpassing Uzbekistan's output by 2.5 times (227,000 tons) and Kyrgyzstan's by four times (140,000 tons). However, it lagged behind Kyrgyzstan in lamb production, where lamb accounted for 35% of the meat market. The economic efficiency of the sector varied by business model. Large agro-holdings like "KazMeatCluster" demonstrated profitability of 18-22% due to economies of scale, automation, and exports. In contrast, small farms had profitability of only 5-8% due to manual labor, high production costs, and limited infrastructure access. A major issue remained dependence on imported feed: 70% of premixes were imported, making the industry vulnerable to global price fluctuations. A lack of modern infrastructure, particularly refrigerated warehouses in the southern regions (Turkistan, Zhambyl), restricted export potential, forcing producers to lower raw material prices.

Government support, such as feed subsidies under "Agrobusiness-2025", improved the situation but covered only 30% of farmers. For instance, in the Karaganda region, subsidies boosted poultry farm productivity by 25%, but small farms remained underserved due to complex documentation requirements. Future development required reducing import dependence by expanding domestic feed production, easing small farms' access to subsidies and loans (5-7% annually), modernising infrastructure (cold storage, IoT systems), and expanding exports to the EU after obtaining quality certifications. The study's limitations are related to the lack of data on small farms due to the lack of centralised accounting, as well as the impact of external factors such as the droughts of 2022-2023 and energy price fluctuations. In the future, it is worth analysing the effectiveness of vertically integrated clusters (e.g., "KazMeatCluster"), investigating the impact of digitalisation on small farms, and assessing the environmental impact of livestock intensification. The findings emphasise that Kazakhstan has the potential to become a key meat exporter in Central Asia, but this requires overcoming structural imbalances, strengthening public-private partnerships, and investing in innovation. Success will depend on integrating small-scale producers into value chains, developing their own feed bases, and adapting to global challenges such as climate change and competition.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] Abdikerimova, G., Yesbolova, A., Moldabekov, B., Kulanova, D., & Seidakhmetov, M. (2024). Economic assessment of the state of livestock industry in Kazakhstan: Prerequisites for the creation of a meat hub. *Agricultural and Resource Economics: International Scientific E-Journal*, 10(1), 29-45. doi: 10.51599/are.2024.10.01.02.

[2] Bureau of National Statistics. (2025). *The main indicators of the development of livestock* Retrieved from https://stat.gov.kz/en/industries/business-statistics/stat-forrest-village-hunt-fish/publications/343750/.

[3] Central Asia Regional Economic Cooperation. (n.d.). *Kazakhstan*. Retrieved from https://www.carecprogram.org/?page_id=6.

[4] Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan. (2023). *State register of veterinary medicines and feedstuffs*. Retrieved from https://www.gov.kz/memleket/entities/vetcontrol/documents/details/471966.

[5] Coulibaly, N., Koné, S., Djina, D., Berté, K., & Yapi, Y. (2021). An analysis of the performance of the agro-food industry in the domestic and international markets of Côte d'Ivoire. *Economic Annals*, 66(229), 37-59. doi: 10.2298/eka2129037c.

[6] Da Silva, B.D., & Conte-Junior, C.A. (2024). Perspectives on cultured meat in countries with economies dependent on animal production: A review of potential challenges and opportunities. *Trends in Food Science & Technology*, 149, article number 104551. doi: 10.1016/j.tifs.2024.104551.

[7] Dambaulova, G.K., Lilimberg, S.I., Madin, V.A., & Abdrakhmanova, G.T. (2022). Meta-analysis of the potential of Kazakhstani pork in the global market of meat products: Problems and prospects. *Veterinary World*, 15(11), 2705-2714. doi: 10.14202/vetworld.2022.2705-2714.

[8] Dossybayev, K., Amandykova, M., Orakbayeva, A., Adylkanova, S., Kozhakhmet, A., Yergali, K., Kulboldin, T., Kulataev, B., & Torekhanov, A. (2024). Genome-wide association studies revealed several candidate genes of meat productivity in Saryarka fat-tailed coarse-wool sheep breed. *Genes*, 15(12), article number 1549. doi: 10.3390/genes15121549.

[9] Fatima, T., Mentel, G., Doğan, B., Hashim, Z., & Shahzad, U. (2021). Investigating the role of export product diversification for renewable, and non-renewable energy consumption in GCC (gulf cooperation council) countries: Does the Kuznets hypothesis exist? *Environment Development and Sustainability*, 24(6), 8397-8417. doi: 10.1007/s10668-021-01789-z.

[10] Ferronato, G., Corrado, S., De Laurentiis, V., & Sala, S. (2021). The Italian meat production and consumption system assessed combining material flow analysis and life cycle assessment. *Journal of Cleaner Production*, 321, article number 128705. doi: 10.1016/j.jclepro.2021.128705.

[11] Food and Agriculture Organization (FAO). (2023). *Livestock industry in Central Asia looks into digital solutions to build resilience*. Retrieved from https://surli.cc/cbvijm.

[12] Handley, K., Kamal, F., & Monarch, R. (2024). Rising import tariffs, falling exports: When modern supply chains meet old-style protectionism. *American Economic Journal Applied Economics*, 17(1), 208-238. doi: 10.1257/app.20210051.

[13] Hang, N.T. (2021). Educating and training labor force under Covid 19: Impacts to meet market demand in Vietnam during globalization and integration era. *Journal for Educators, Teachers and Trainers*, 12(1), 179-184. doi: 10.47750/jett.2021.12.01.023.

[14] Hötzel, M.J., & Vandresen, B. (2022). Brazilians' attitudes to meat consumption and production: Present and future challenges to the sustainability of the meat industry. *Meat Science*, 192, article number 108893. doi: 10.1016/j.meatsci.2022.108893.

[15] Iakubchak, O.M., Vivych, A.Y., Hryb, J.V., Taran, T.V., & Danylenko, S.H. (2024). Production and meat quality of broiler chickens with the use of a probiotic complex of bifidobacteria and lactobacilli. *Regulatory Mechanisms in Biosystems*, 15(3), 477-482. doi: 10.15421/022467.

[16] Ibyzhanova, A., Rustenova, E., Akhmetzhanova, N., Talapbayeva, G., & Yerniyazova, Z. (2024). Opportunities for Kazakhstan's agricultural exports to the Chinese market. *Journal of Eastern European and Central Asian Research (JEECAR)*, 11(5), 871-886. doi: 10.15549/jeecar.v11i5.1570.

[17] Ibyzhanova, A., Rustenova, E., Jakupova, A., & Talapbayeva, G. (2022). Food market of the Republic of Kazakhstan: Export opportunities. *Eurasian Journal of Economic and Business Studies*, 3(65), 60-76. doi: 10.47703/ejebs.v3i65.106.

[18] Jia, M., & Zhen, L. (2021). Analysis of food production and consumption based on the emergy method in Kazakhstan. *Foods (Basel, Switzerland)*, 10(7), article number 1520. doi: 10.3390/foods10071520.

[19] Kong, X., *et al.* (2025). Research on China's aquatic product export trade to ASEAN from the perspective of the blue economy: An empirical analysis based on the modified constant market share model. *Water*, 17(4), article number 487. doi: 10.3390/w17040487.

[20] Lusk, J.L., Blaustein-Rejto, D., Shah, S., & Tonsor, G.T. (2022). Impact of plant-based meat alternatives on cattle inventories and greenhouse gas emissions. *Environmental Research Letters,* 17(2), article number 024035. doi: 10.1088/1748-9326/ac4fda.
[21] Ma, D., Zhu, Y., & Yang, Y. (2024). How green finance affects export production quality: Fresh evidence from China. *Energy Economics*, 131, article number 107381. doi: 10.1016/j.eneco.2024.107381.
[22] Magsi, H., Randhawa, A.A., & Shah, A.H. (2020). Halal meat production in Pakistan: Status and prospects. *Journal of Islamic Marketing*, 12(5), 941-950. doi: 10.1108/jima-05-2019-0094.
[23]Mamenko, O., Portiannyk, S., & Prusova, G. (2024). Prerequisites for innovative development of livestock and agriculture through the integration of agricultural production and environmental safety. *Ukrainian Black Sea Region Agrarian Science*, 28(3), 19-31. doi: 10.56407/bs.agrarian/3.2024.19.
[24] Mateos, G.G., Corrales, N.L., Talegón, G., & Aguirre, L. (2024). Pig meat production in the European Union-27: Current status, challenges, and future trends. *Animal Bioscience*, 37(4), 755-774. doi: 10.5713/ab.23.0496.
[25] Mazlum, Y., Demirci, A., Şimşek, E., & Demrci, S. (2025). An assessment on harvest, exports, and marketing income relationships of freshwater crayfish in Turkey. *Momona Ethiopian Journal of Science*, 17(1), 99-120. doi: 10.4314/mejs.v17i1.7.
[26] Melkamworkassefa. (2024). *Assessment on meat export performance in Ethiopia; Challenges and opportunities*. Addis Ababa: St. Mary's University.
[27] Melnyk, V., Prokopenko, N., & Bazyvoliak, S. (2024). Contemporary trends in broiler meat production in North America: A literature review. *Animal Science and Food Technology*, 15(4), 102-119. doi: 10.31548/animal.4.2024.102.
[28] Melo, G., Peña-Lévano, L., & Luengo, K. (2021). Economic dynamics in the beef food supply chain under pandemic conditions. *Applied Economics Teaching Resources*, 4.
[29] Ministry of Agriculture of the Republic of Kazakhstan. (2025). *Republican register of breeding animals in the section of regions by the results of 2024*. Retrieved from https://www.gov.kz/memleket/entities/moa/documents/details/796803?lang=en.
[30] Ministry of Economy of the Republic of Kazakhstan. (2025). *Analytical report on budgetary risks and long-term sustainability of public finances until 2056*. Retrieved from https://www.gov.kz/memleket/entities/economy/documents/details/770454.
[31] N'Souvi, K., Sun, C., Che, B., & Vodounon, A. (2024). Shrimp industry in China: Overview of the trends in the production, imports and exports during the last two decades, challenges, and outlook. *Frontiers in Sustainable Food Systems*, 7, article number 1287034. doi: 10.3389/fsufs.2023.1287034.
[32] Organisation for Economic Co-operation and Development (OECD). (2021). *OECD-FAO Agricultural Outlook 2021-2030*. Retrieved from https://www.oecd.org/en/publications/oecd-fao-agricultural-outlook-2021-2030_19428846-en.html.
[33] Pandyaswargo, A.H., Wibowo, A.D., Maghfiroh, M.F.N., Rezqita, A., & Onoda, H. (2021). The emerging electric vehicle and battery industry in Indonesia: Actions around the nickel ore export ban and a SWOT analysis. *Batteries*, 7(4), article number 80. doi: 10.3390/batteries7040080.
[34] Pavliuk, S., Poberezhets, H., Kravchenko, T., & Miroshkina, N. (2025). The impact of the agricultural sector on the sustainable development of rural territorial communities. *Ekonomika APK*, 32(1), 59-69. doi: 10.32317/ekon.apk/1.2025.59.
[35] Skribbe, S., Liu, M., Patel, S., Rix, M.J., Bensebaa, F., Mak, L., & Wu, X. (2024). The levelized cost of carbon abatement (LCCA) in substituting conventional ammonia production with power-to-ammonia for fertilizer, hydrogen and export. *Applied Energy*, 373, article number 123859. doi: 10.1016/j.apenergy.2024.123859.
[36] Uazhanova, R., Moldakhmetova, Z., Tungyshbayeva, U., Izteliyeva, R., Amanova, S., Baimakhanov, G., Seksenbay, S., & Sabraly, S. (2024). Ensuring quality and safety in the production and storage of poultry meat. *Caspian Journal of Environmental Sciences*, 22(5), 1271-1277. doi: 10.22124/cjes.2024.8342.
[37] Wakaso, A.A., Mummed, Y.Y., & Yesuf, Y.K. (2025). Examining Ethiopia's live animal and meat value chain. *Heliyon*, 11(1), article number e41752. doi: 10.1016/j.heliyon.2025.e41752.
[38] Wardhana, A.K., & Ratnasari, R.T. (2022). Impact of agricultural land and the output of agricultural products moderated with internet users toward the total export of agricultural product in three Islamic South East Asian countries. *Iqtishodia Journal of Islamic Economics*, 7(2), 11-20. doi: 10.35897/iqtishodia.v7i2.719.
[39] Warmate, D., & Onarinde, B.A. (2023). Food safety incidents in the red meat industry: A review of foodborne disease outbreaks linked to the consumption of red meat and its products, 1991 to 2021. *International Journal of Food Microbiology*, 398, article number 110240. doi: 10.1016/j.ijfoodmicro.2023.110240.
[40] Whitton, C., Bogueva, D., Marinova, D., & Phillips, C.J.C. (2021). Are we approaching peak meat consumption? Analysis of meat consumption from 2000 to 2019 in 35 countries and its relationship to gross domestic product. *Animals*, 11(12), article number 3466. doi: 10.3390/ani11123466.

[41] World Bank. (2021). *Kazakhstan: Sustainable livestock development program for results*. Retrieved from https://www.worldbank.org/en/country/kazakhstan/brief/sustainable-livestock-development-program-for-results.
[42] Zielińska-Chmielewska, A., Mruk-Tomczak, D., & Wielicka-Regulska, A. (2021). Qualitative research on solving difficulties in maintaining continuity of food supply chain on the meat market during the COVID-19 pandemic. *Energies*, 14(18), article number 5634. doi: 10.3390/en14185634.

Ринок м'яса в Казахстані: Аналіз виробництва, споживання та експорту

Адасхан Дарібаєва
Кандидат економічних наук, доцент
Університет «Есіл»
010000, вул. А. Жубанова, 7А, м. Астана, Республіка Казахстан
https://orcid.org/0000-0002-5698-7065
Гульжан Аліна
Кандидат економічних наук, доцент
Університет «Есіл»
010000, вул. А. Жубанова, 7А, м. Астана, Республіка Казахстан
https://orcid.org/0000-0002-4805-752X
Алмагуль Нургалієва
Доктор економічних наук, професор
Казахський агротехнічний дослідницький університет ім. С. Сейфулліна
010011, просп. Женіса, 62, м. Астана, Республіка Казахстан
https://orcid.org/0000-0001-6449-8766
Галія Укубасова
Доктор економічних наук, професор
Університет «Есіл»
010000, вул. А. Жубанова, 7А, м. Астана, Республіка Казахстан
https://orcid.org/0000-0002-0085-9945
Мадіна Турсумбаєва
Кандидат економічних наук, доцент
Міжнародний університет Астана
010000, просп. Кабанбай батира, 8, м. Астана, Республіка Казахстан
https://orcid.org/0000-0001-7776-6221

Анотація. Метою статті є аналіз поточного стану та тенденцій розвитку ринку м'яса в Казахстані, з акцентом на виробництві, споживанні та експорті, а також визначення ключових проблем і перспектив галузі. Дослідження ґрунтується на аналізі статистичних даних за 2014-2025 роки, отриманих з офіційних джерел, порівняльній оцінці ефективності різних сільськогосподарських структур (агрохолдингів, фермерських та особистих селянських господарств), а також регіональному аналізі спеціалізації виробництва в Алматинській, Туркестанській та Карагандинській областях Казахстану. Було виявлено, що виробництво м'яса птиці зросло на 135 % (до 340,000 тонн у 2023 році), виробництво яловичини – на 18 % (до 567,000 тонн), тоді як виробництво свинини скоротилося на 45 % через епізоотії. Казахстан був визнаний провідним виробником яловичини в Центральній Азії (в 2,5 рази більше, ніж Узбекистан), але відстає від Киргизстану у виробництві баранини. Дослідження показало, що на агрохолдинги припадає 55 % національного виробництва з рентабельністю 18-22 %, тоді як малі фермерські господарства демонструють лише 5-8 % рентабельності через ручну працю та високі виробничі витрати. Серед ключових проблем – залежність від імпортних кормів (70 % преміксів), дефіцит сучасної переробної інфраструктури (лише 35 % підприємств відповідають міжнародним стандартам) та високі відсоткові ставки за кредитами для фермерських господарств (14-18 % річних). Практичне значення дослідження полягає в обґрунтуванні рекомендацій щодо зниження імпортозалежності, розвитку вертикально-інтегрованих кластерів (наприклад, KazMeatCluster), розширення державної підтримки малих фермерських господарств та інвестування в цифрові технології. Результати дослідження можуть бути використані для розробки стратегій розвитку аграрного сектору Казахстану, підвищення його конкурентоспроможності на міжнародних ринках та залучення іноземних інвестицій

Ключові слова: сільське господарство; тваринництво; аграрні кластери; регіональна спеціалізація; економічна ефективність