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Modern aspects of the development of East Kazakhstan agro-industrial complex

The article considers modern aspects of development process of agro-industrial complex, both in the Republic of Kazakhstan and East Kazakhstan region. The important role of agriculture in the economic and social sphere of any state is shown, which is one of the basic branches of the economy, the primary goal of which is the production of high quality food products that are competitive both on the domestic and foreign markets. The successful solution of this task depends on the creation of a stable base for the production of agricultural products, the availability of high-tech equipment, the creation of modern technological solutions for deep, non-waste processing of raw materials. The authors analyzed the current state of the agro-industrial sector of the country as a whole, and the region in particular, identified problems in the dynamics of its development. It is noted that the current level of agricultural development is characterized by developmental instability, low crop yields, low animal productivity, low inculcation of R & D, low degree of dissemination of modern agro-technical knowledge, concentration of agricultural production. In order to ensure the country's food security, it is necessary to switch to an innovative way of its development, in this connection, aspects of the competitiveness of the agro-industrial complex of Kazakhstan in the context of the globalization of the world economy. It was proposed to use also secondary raw materials of livestock for the formation of the potential of import substitution of the economy of the Republic of Kazakhstan.

Keywords: agro-industrial complex, agriculture, crop production, cattle, country's food security, import substitution.

The development of agriculture sector is an important priority for Kazakhstan and its role in the structure of the economy and, in general, in the reproductive process is the basis. Economic integration with Russian Federation, Republic of Belarus and the accession to the World Trade Organization (WTO) from the end of November 2015 put at the forefront the increasing competitiveness of the domestic agro-industrial complex (AIC). The AIC is the largest inter-industry complex that unites several branches of the economy aimed at the production and processing of agricultural raw materials and the production of products brought from it to the end user. In accordance with the Strategic Development Plan of the Republic of Kazakhstan until 2025, the policy in the agro-industrial complex will focus on increasing agricultural productivity, deepening the processing of agricultural products, ensuring the country's food security and the growth of export-oriented environmentally friendly products [1].

However, the volume of agricultural production in the republic did not reach the level of 1990 due to a decrease in crop yields and productivity of animals, as well as a reduction in the areas of used farmland. Sown areas decreased by 40 %, pasture use - by 70 %, and the state reserve lands increased 6 times.

Today, the livestock sector that is not able to provide the population with domestic products in the required volume lags behind in its development. Today, the number of cattle is only 58 % of the 1990 figure. At the same time, more than 50 % of the total livestock population is in households. If in 1990 in Kazakhstan meat production per capita was 90 kg, then in 2017 – only 71 kg. During this period, the population of Kazakhstan began to consume meat by 5.0 % less, milk by 27 %, chieiggs by 24 %, and potatoes by 35 % [2].

If in 1990 domestic processing plants processed almost 60 % of consumed meat and meat products, up to 30 % of dairy products, today these figures do not reach 20 % of the previous level of processing.

According to the Ministry of Agriculture of the Republic of Kazakhstan, the import of basic types of food products makes up more than 60 % of total imports. In 2017 imported products (4.0 billion USD) were imported to Kazakhstan, which is 5.0 % more than in 2016. For example, most American companies supply meat to Kazakhstan, fruits and nuts are bought in significant amounts in Uzbekistan and Tajikistan, dairy products in Russia and Belarus, tea in India, coffee in Kenya. In general, Kazakhstan imports large volumes of food products from Russia and other CIS countries.

Export of food products in Kazakhstan is noticeably inferior to imports. The exception is the products from cereals, in particular wheat and wheat-rye flour. Nevertheless, Kazakh entrepreneurs export many other products abroad - meat (the export of meat and meat products has decreased 576 times (3,2 thousand tons)

since 1990 (184,5 thousand tons)), fruits and nuts, oils, honey, dairy products, cheeses, bakery products, sugar and other goods.

It is well known that if the share of imports of food products exceeds the threshold value of 10-15 %, then it serves no longer as an addition to the internal AIC, but essentially suppresses it and leads to a narrowing of the possibilities of own development, to a decline in production indicators.

Table 1 shows the factors that negatively affect the stability of the AIC development process.

Table 1

Factors that negatively affect the sustainability of the AIC development

Crop production	Livestock production
Decrease in soil fertility and insufficient application of mineral and organic fertilizers	Low level of specialization, diversifies production
Non-observance of scientifically justified crop rotations and weak development of seed production	Extensive development of the industry, accompanied by an increase in the number of livestock, while maintaining a low productivity
Low concentration of commodity production in a number of industries	Insufficient feeding level, irrational feed structure, predominance of purchased feedstock
Extensive management of the industry-the main increase in production due to the growth of cultivated areas	Weak breeding work and poor quality of products
Lack of state support focused on the improvement of land fertility, yield and product quality	Insufficient state support for small forms of meat industry management
Weak motivation of work, low incomes, imperfection of the system of sales and promotion of goods, as well as relationships of partners	Undeveloped logistics infrastructure and weak motivation for work
Declining solvent demand in the conditions of consumer prices growth	Deficit of qualified personnel and specialists

In this way, in Kazakhstan, where the agricultural market is in a constant state of development, these factors must be constantly studied so that the development of the agrarian sector, which has a huge potential, does not lag behind other economic spheres of the country. And the management system of the economic sector made it possible to correct its actions in advance, ensuring a constant growth of the state's economic security.

For example, the Republic is one of the five world leaders for the production and export of wheat per capita. And at the same time, the country still does not use its potential in other spheres of agriculture. In this connection, the research revealed the following aspects of competitiveness development in the agro-industrial complex of Kazakhstan in the context of the globalization of the world economy[3]:

the competitiveness of the agro-industrial complex and the strengthening of Kazakhstan's positions in the international arena can be realized through the effective use of the export potential of the industry;

country's participation in the further expansion of the potential for import substitution has certain prospects, including through the use of livestock sector resources. The international experience of livestock development shows that the products of this sector are not only milk and meat, but also wool, leather and other raw materials, the use of which will allow the production of numerous goods both for domestic consumption and expand the range of export goods. Future development and support of livestock production will serve as a basis for the development of processing industries using secondary raw materials of the livestock sector and determining new priorities in export diversification in the agro-industrial complex;

priorities of the import substitution's potential of the cattle-breeding sector of the agro-industrial complex allow producing goods with a large Kazakhstan content that will contribute to the formation of an exclusive Kazakhstan brand. The national Kazakhstan brand should represent our country as a state with a unique potential in the production of goods and services using traditional skills of the population;

usage of secondary raw materials of livestock in a complete production cycle will allow: to provide resources to various industries and sub-sectors; produce a wide range of products through diversification; create new jobs; improve the socio-economic climate in the countryside, which together will make a multiplier effect in the national economy.

For today, the programs and projects supporting the agro-industrial complex initiated by the government, the Ministry of Agriculture and agricultural holdings of the country give positive results and contribute to improving the situation in the industry. Subsidizing volumes are increasing every year, subsidy payment mechanisms are being improved, and administrative barriers are decreasing in the provision of public services in the field of agricultural management [3–9].

For example, the comfort of taxation for agribusiness entities has been increased, in particular:

There is an exemption from the payment of income tax from the income of personal part-time farms, selling their products to processing enterprises or procuring organizations.

A regulatory framework has been created to address the so-called «first VAT problem» for processing enterprises. The processing enterprises were obliged to pay VAT from the whole turnover, since they purchase raw materials from personal part-time farms and peasant farms that are not VAT payers, which leads to a rise in the cost of final products and a decrease in its competitiveness. In this regard, it is envisaged for procurement organizations to calculate VAT in accordance with the generally established procedure, with the amount paid to VAT refunded to them in the form of grants.

A bill has been drafted to expand the application of a special tax regime for agricultural cooperatives. However, in connection with the adoption of changes in the tax code of the Republic of Kazakhstan, it is necessary to finalize the draft law regarding the lifting of restrictions on the application of a special tax regime by the agricultural cooperative (restrictions on branches, on the availability of agricultural land, etc.).

To solve the problems of marketing finished products in the state program of industrial and innovative development for the second five-year period, measures are envisaged to reduce infrastructure costs, expand retail space, create logistics centers, develop a culture of consumption, develop technical regulation.

However, the issue of financing the indicated activities of the State Program of Industrial – Innovative Development (SPIID) remained unresolved. Thus, the Ministry of Agriculture proposed measures in the Action Plan of the SPIID, with a total financing of about 250 billion KZT for 5 years, while in fact, through the «Damu» Entrepreneurship Development Fund» JSC, only 12.5 billion KZT was allocated for concessional lending to the processing industry.

An important role in the development of the economy of the East Kazakhstan region belongs to the AIC, where a significant economic potential. Its development determines to a decisive extent the level of food security and socio-economic situation.

Despite the pronounced industrial specialization of the East Kazakhstan region, up to 10 % of the region's GRP is formed at the expense of the agricultural sector. The region ranks the 4th place in the Republic for the development of agriculture, producing up to 12 % of the total volume of agricultural products of the country after Almaty (15.8 %), South Kazakhstan (12.8 %) and North Kazakhstan (12.5 %) regions (Fig. 1).

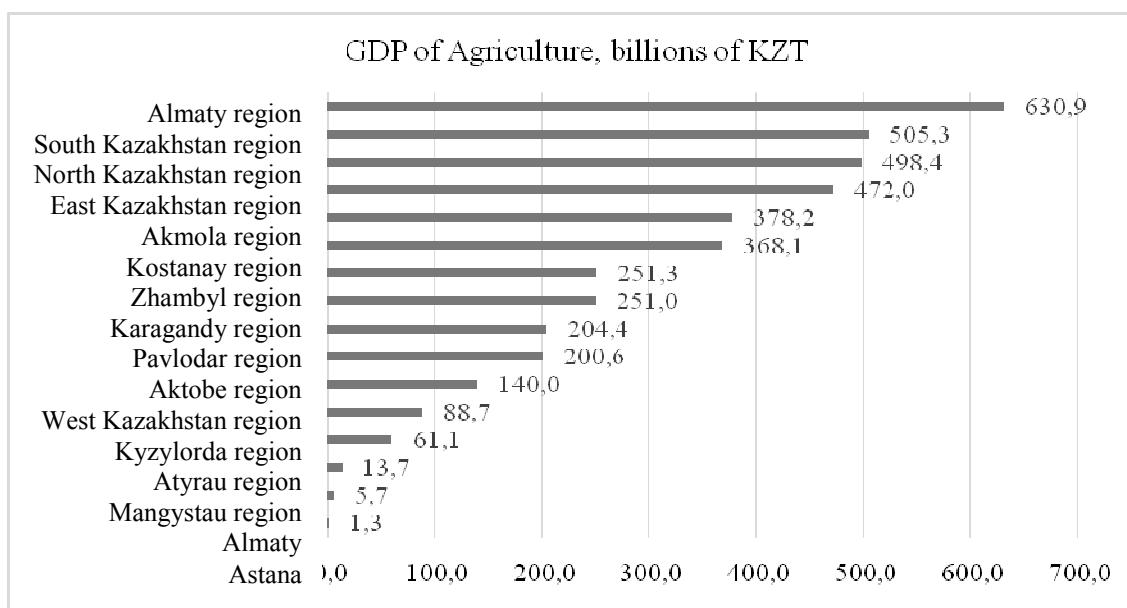


Figure 1. Gross output of agricultural products of the Republic of Kazakhstan by regions for 2017

The volume of gross agricultural output (East Kazakhstan region) reached 472.0 billion KZT by 2017 and grew up by 28.6 % to the level of 2015 (table 2). In the total volume of gross agricultural output, livestock products accounted for 57.2 %, crop production 42.8 %

Table 2

GDP of agriculture analysis (East Kazakhstan region)

Agriculture	Years			Absolute deviation by period		
	2015	2016	2017	2016-2015	2017-2016	2017-2015
Gross output of agricultural products (services) in current prices, bln. KZT	367.0	415.0	472.0	48.0	57.0	105.0
– Gross crop production	158.6	185.1	207.7	26.5	22.6	49.1
– Gross livestock production	208.0	229.3	264.3	21.3	35.0	56.3

Note. Compiled by the authors (Official Data of the Committee on Statistics of the RK [10]).

Two-thirds of the region's agricultural output was produced by the following 10 (ten) regions: Urdzharskiy (11.6 %), Ulan (7.4 %), Glubokovsky (6.7 %), Tarbagatai (6.6 %), Kokpektinsky (6.5 %), Kurchumsky (6.3 %), Borodulikha (5.3 %), Katon-Karagai (5.1 %), Zyryanovsky (5.0 %) districts and Semey city (6.7 %). The main producers in the sector are the economy of the population, they produced 54.6 % of the oblast's agricultural output; the share of peasant farms was 32.0 %, enterprises - 13.4 %.

East Kazakhstan region is the second largest producer of livestock products in the country. It provides the population with food, and light industry with raw materials. The main branches of the specialization of livestock are: breeding cattle, sheep, goats and horses. Today, livestock is a social base for the rural way of life and dominates in the formation of cash earnings of agricultural enterprises.

In the production of raw milk and meat in slaughter weight, the EK region occupies, respectively, the first and second places in the country, concentrating 14-15 % of the produced volume of production in the country. By cattle population, this region is among the leaders after Almaty, Kostanay and North-Kazakhstan regions. In agricultural enterprises, the production of gross livestock production in 2017 increased by 18.3 %, in peasant or private farms — by 11.4 %, in households — by 0.7 %.

The production dynamics of livestock products in the East Kazakhstan region is presented below in Table 3.

Table 3

Production dynamics of livestock products (East Kazakhstan region)

Production of livestock products	All categories of farms			Absolute deviation by period		
	Years			2016-2015	2017-2016	2017-2015
	2015	2016	2017			
Caught in the farm and sold for slaughter of all types of livestock and poultry in live weight, tons	198887.4	211053.4	220181.4	12166.0	9128.0	21294.1
Cow milk, tons	742481.7	786588.5	825912.7	44106.8	39324.2	83431.0
Chicken eggs, th.pcs.	134717.3	136603.1	137645.5	1885.8	1042.4	2928.2

Note. Compiled by the authors (Official Data of the Committee on Statistics of the RK [10]).

In all categories of farms in five regions (Semey, Abay, Ayagoz, Tarbagatai and Ulan region), 51.5 % of the region's meat production was produced. For 60 thousand ton of cow milk or was produced in the farms of six regions (Ayagoz, Kokpekty, Kurchum, Tarbagatai, Ulansky, Urdzharskiy), they own 51.3 % of the output. 41.4 million chicken egg (28.0 % of the region's volume) were obtained in all categories of farms in the Ulan and Glubokovo regions, where poultry farms are located [10].

Thus, the development of animal husbandry in the East Kazakhstan region has been characterized in recent years by positive trends in the production of livestock and the number of livestock, but is constrained by a number of factors characteristic for the development of livestock.

- concentration of the proportion of livestock in cattle in private households;
- lack and low qualitative characteristics of the forage reserve;
- a low proportion of breeding stock in the total number of livestock in the region;
- lack of facilities providing livestock infrastructure (points of industrial slaughter, cattle cemeteries);
- deficit of technical and veterinary personnel in the districts;
- lack of development of the practice of transhumance, the use of standard grazing and the use of anti-erosion adaptive grasses leads to the development of desertification of pasture lands near settlements.

The livestock complex should be considered not only from the position of the supplier of meat and dairy products to the domestic and foreign markets, but also as a promising sub-sector providing such basic industries as light, textile, construction, engineering and other. The livestock sector is a non-waste production where not only the hide and wool is used, but also other types of secondary raw materials such as horn-hoofed, endocrine-fermented and other raw materials obtained as a result of slaughter (Fig. 2).

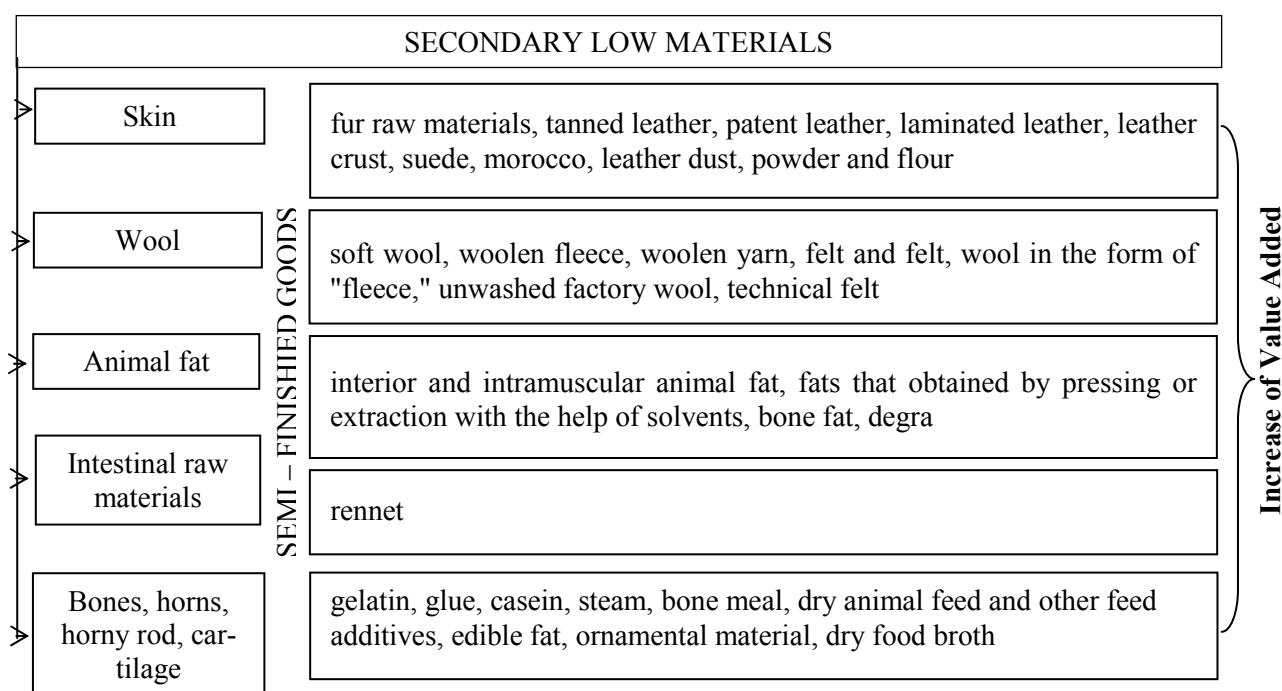


Figure 2. Types of livestock secondary raw materials

The use of secondary livestock raw materials will promote the development of new industries and import substitution of both raw materials and finished products, which will allow developing new clusters in the countryside and attracting innovative technologies in that sector of the agro-industrial complex that is traditional for the economy of Kazakhstan.

Taking into account the fact that the Government of Kazakhstan has set the task of addressing the issues of import substitution and increasing the export of meat, the issues of processing and use of secondary raw materials must be solved already today. In general, the provision of an integrated approach to the processing of secondary raw materials will ensure waste-free processing, which will provide additional profit. At the same time, a comprehensive approach to the problem of recycling secondary raw materials will effectively use the majority of resources, both in the livestock sector and in related industries and sub-sectors, to minimize the loss of secondary raw materials through diversification. Expanding the range of livestock raw materials will meet the needs of the domestic market and be positioned on the outside in a new quality, and fully realize the geopolitical location of the republic to find new partners with new export offers.

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References

- 1 Указ Президента Республики Казахстан № 636 от 15.02.2018 года «Стратегический план развития Республики Казахстан до 2025 года» [Электронный ресурс]. — Режим доступа: zakon.kz.
- 2 Толенди А.Е. Приоритетные направления государственного регулирования АПК Казахстана / А.Е. Толенди, Г.К. Нурманбекова // Исследования, результаты. — № 1(73). — 2017. — С. 316–321.
- 3 Алшанов Р.А. Казахстан на мировом аграрном рынке: потенциал, проблемы и их решение / Р.А. Алшанов — Алматы: Ин-т мирового рынка, 2010. — 623 с.
- 4 Есполов Т.И. АПК Казахстана: глобализация и инновация / Т.И. Есполов. — Алматы: КазНАУ, 2012. — 436 с.
- 5 Ким В.В. Особенности агропромышленного комплекса в Казахстане / В.В. Ким, Г.Б. Абдишова // Молодой ученый. — 2017. — № 8.1. — С. 21–23.
- 6 Нефедова Т. Агропромышленный комплекс Казахстана как составляющая бренда национальной экономики / Т. Нефедова; под общ. ред. И.Н. Кренгауз // Маркетинг Республики Казахстан: страновой бренд: сб. по материалам науч. семинара. — Алматы: Экономика, 2014. — С. 118–125.
- 7 Рахимжанова А. Состояние и проблемы развития АПК Казахстана / А.Рахимжанова // Аналитическое обозрение. — 2011. — № 2. — С. 78–87.
- 8 Султангалиева Л.С. Развитие конкурентоспособности отрасли мясного животноводства Республики Казахстан / Л.С.Султангалиева // Вестн. КазНУ. — 2013. — № 4. — С. 93–101.
- 9 Мухина Е.Г. Оценка эффективности государственной поддержки агропромышленного производства / Е.Г. Мухина. — М.: Экономист, 2007. — № 4 — С. 89–93.
- 10 Официальный сайт Комитета по статистике Республики Казахстан [Электронный ресурс]. — Режим доступа: stat.gov.kz.

О.К. Денисова, Э.С. Мадиярова, М.В. Сизов, Р.Р. Стефиниски

Шығыс Қазақстан облысы агроөнеркәсіп кешені дамуының заманауи аспектілері

Мақалада агроөнеркәсіп кешені дамуының заманауи аспектілері Қазақстан Республикасы және Шығыс Қазақстан облысы бойынша да қарастырылған. Кез келген мемлекеттің экономикалық және әлеуметтік саласында ауыл шаруашылығы рөлінің маңыздылығы көрсетілген, алғашқы міндеттерінің бірі — жоғары сапалы азық-түлік өндірісі, ішкі нарықта қандай бәсекеге қабілетті болса, сыртқы да сондай, ол экономиканың базалық салаларының бірі болып табылады. Бұл міндеттің сәтті шешімдері — ауыл шаруашылығы өнімдерінің тұрақты базаларын жасауға байланысты, жоғары технологиялық құралдардың болуы, шикізатты қайта, қалдықсыз, терең өңдеу бойынша қазіргі заманғы технологиялық шешімдер жасау. Елдің агроөнеркәсіп секторының қазіргі заман жағдайын толық талдап және де жекелей де оның даму динамикасында мәселелі орындары табылды. Ауыл шаруашылығының заманауи даму деңгейінен тұрақсыз дамуын атауға болады, ауыл шаруашылығы мәдениетінің өсуінің, мал өнімдерінің, ҒЖТКӨ енгізуінің және заманауи агротехникалық білімінің таралу деңгейінің төмендігі, ауыл шаруашылығы өндірісінің концентрациясы. Елдің азық-түлік қауіпсіздігін қамтамасыз ету мақсатында оның дамуы инновациялық жолмен ауысуы тиіс, соған байланысты әлемдік экономика жағдайында Қазақстанның агроөнеркәсіп кешенінің бәсекеге қабілеттілігін дамыту аспектілері анықталған. Қазақстан Республикасы экономикасын импорт алмастыру әлеуетін құру үшін мал шаруашылығы шикізатын екінші қайтара пайдалану ұсынылды.

Кілт сөздер: агроөнеркәсіп кешені, ауыл шаруашылығы, өсімдік шаруашылығы, мал шаруашылығы, елдің азық-түлік қауіпсіздігі, импорт алмастыру.

О.К. Денисова, Э.С. Мадиярова, М.В. Сизов, Р.Р. Стефиниски

Современные аспекты развития агропромышленного комплекса Восточно-Казахстанской области

В статье рассмотрены современные аспекты развития агропромышленного комплекса как в Республике Казахстан, так и в Восточно-Казахстанской области. Показана важная роль сельского хозяйства в экономической и социальной сфере любого государства, являющегося одной из базовых отраслей экономики, первоочередная задача которой — производство пищевых продуктов высокого качества, конкурентоспособных как на внутреннем, так и на внешнем рынке. Успешное решение этой задачи зависит от создания устойчивой базы производства сельскохозяйственной продукции, наличия высокотехнологического оборудования, создания современных технологических решений по глубокой, безотходной переработке сырья. Проанализировано современное состояние агропромышленного

сектора страны в целом и области в частности, выявлены проблемные места в динамике его развития. Отмечено, что современному уровню развития сельского хозяйства свойственны неустойчивость развития, низкие урожайность сельскохозяйственных культур, продуктивность животных, внедряемость НИОКР, степень распространения современных агротехнических знаний, а также концентрация сельскохозяйственного производства. В целях обеспечения продовольственной безопасности страны необходимо перейти на инновационный путь развития сельскохозяйственного производства, в связи с чем определены аспекты развития конкурентоспособности агропромышленного комплекса Казахстана в условиях глобализации мировой экономики. Предложено использование вторичного сырья животноводства для формирования потенциала импортозамещения экономики Республики Казахстан.

Ключевые слова: агропромышленный комплекс, сельское хозяйство, растениеводство, животноводство, продовольственная безопасность страны, импортозамещение.

References

- 1 Ukaz Prezidenta Respubliki Kazakhstan No. 636 ot 15.02.2018 hoda «Stratehicheski plan razvitiia Respubliki Kazakhstan do 2025 hoda» (2018) [Decree of the President of the Republic of Kazakhstan No. 636, February 15 «Strategic Development Plan of the Republic of Kazakhstan until 2025»]. *zakon.kz*. Retrieved from *zakon.kz* [in Russian].
- 2 Tolendi, A.E., & Nurmanbekova, G.K. (2017). Prioritetnye napravleniia hosudarstvennogo reulirovaniia APK Kazakhstana [Priority directions of state regulation of the agro-industrial complex of Kazakhstan]. *Issledovaniia, rezultaty – Research results, 1(73)*, 316–321 [in Russian].
- 3 Alshanov, R.A. (2010). *Kazakhstan na mirovom ahrarnom rynke: potentsial, problemy i ikh reshenie* [Kazakhstan in the global agrarian market: potential, problems and their solutions]. Almaty: Institut mirovoho rynka [in Russian].
- 4 Espolov, T.I. (2012). *APK Kazakhstana: hlobalizatsiia i innovatsiia* [AIC of Kazakhstan: globalization and innovation]. Almaty: KazNAU [in Russian].
- 5 Kim, V.V., & Abdishova, G.B. (2017). Osobennosti ahropromyshlennogo kompleksa v Kazakhstane [Features of the agro-industrial complex in Kazakhstan]. *Molodoi uchenyi – Young scientist, 8.1*, 21–23 [in Russian].
- 6 Nefedova, T. (2014). Ahropromyshlenni kompleks Kazakhstana kak sostavliaiushchaia brenda natsionalnoi ekonomiki [The agro-industrial complex of Kazakhstan as a component of the national economy brand]. Proceedings from Marketing of the Republic of Kazakhstan: *Nauchnyi seminar — Scientific seminar*. (pp. 118-125). I.N. Krengauz (Ed.). Almaty: Ekonomika [in Russian].
- 7 Raximzhanova, A. (2011). Sostoianie i problemy razvitiia APK Kazakhstana [Status and problems of development of the agro-industrial complex of Kazakhstan]. *Analiticheskoe obozrenie – Analytical Review, 2*, 78–87 [in Russian].
- 8 Sultangalieva, L.S. (2013). Razvitie konkurentosposobnosti otrasli miasnogo zhivotnovodstva Respubliki Kazakhstan [Development of the competitiveness of the livestock industry in the Republic of Kazakhstan]. *Vestnik KazNu – Bulletin KazNU, 4*, 93–101 [in Russian].
- 9 Muxina, E.G. (2007). Otsenka effektivnosti hosudarstvennoi podderzhki ahropromyshlennogo proizvodstva [Evaluation of the effectiveness of state support for agro-industrial production]. (Vol. 4, 89–93). Moscow: Ekonomist [in Russian].
- 10 Ofitsialnyi sait Komiteta po statistike Respubliki Kazakhstan [Official site of the Committee on Statistics of the Republic of Kazakhstan]. *stat.gov.kz*. Retrieved from *stat.gov.kz* [in Russian].