

**ISSN 2518-1483 (Online),
ISSN 2224-5227 (Print)**

2018 • 6

**ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ**

БАЯНДАМАЛАРЫ

ДОКЛАДЫ

**НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК
РЕСПУБЛИКИ КАЗАХСТАН**

REPORTS

**OF THE NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF KAZAKHSTAN**

ЖУРНАЛ 1944 ЖЫЛДАН ШЫГА БАСТАФАН

ЖУРНАЛ ИЗДАЕТСЯ С 1944 г.

PUBLISHED SINCE 1944



Бас редакторы
х.ғ.д., проф., ҚР ҮФА академигі **М.Ж. Жұрынов**

Редакция алқасы:

Адекенов С.М. проф., академик (Қазақстан) (бас ред. орынбасары)
Величкин В.И. проф., корр.-мүшесі (Ресей)
Вольдемар Вуйчик проф. (Польша)
Гончарук В.В. проф., академик (Украина)
Гордиенко А.И. проф., академик (Белорус)
Дука Г. проф., академик (Молдова)
Илолов М.И. проф., академик (Тәжікстан),
Леска Богуслава проф. (Польша),
Локшин В.Н. проф. чл.-корр. (Қазақстан)
Нараев В.Н. проф. (Ресей)
Неклюдов И.М. проф., академик (Украина)
Нур Изура Удзир проф. (Малайзия)
Перни Стефано проф. (Ұлыбритания)
Потапов В.А. проф. (Украина)
Прокопович Полина проф. (Ұлыбритания)
Омбаев А.М. проф., корр.-мүшесі (Қазақстан)
Отелбаев М.О. проф., академик (Қазақстан)
Садыбеков М.А. проф., корр.-мүшесі (Қазақстан)
Сатаев М.И. проф., корр.-мүшесі (Қазақстан)
Северский И.В. проф., академик (Қазақстан)
Сикорски Марек проф., (Польша)
Рамазанов Т.С. проф., академик (Қазақстан)
Такибаев Н.Ж. проф., академик (Қазақстан), бас ред. орынбасары
Харин С.Н. проф., академик (Қазақстан)
Чечин Л.М. проф., корр.-мүшесі (Қазақстан)
Харун Парлар проф. (Германия)
Энджун Гао проф. (Қытай)
Эркебаев А.Ә. проф., академик (Қыргыстан)

«Қазақстан Республикасы Ұлттық ғылым академиясының баяндамалары»
ISSN 2518-1483 (Online),
ISSN 2224-5227 (Print)

Меншіктенуші: «Қазақстан Республикасының Ұлттық ғылым академиясы» Республикалық қоғамдық бірлестігі (Алматы қ.)
Қазақстан республикасының Мәдениет пен ақпарат министрлігінің Ақпарат және мұрағат комитетінде 01.06.2006 ж.
берілген №5540-Ж мерзімдік басылым тіркеуіне қойылу туралы куәлік

Мерзімділігі: жылына 6 рет.

Тиражы: 500 дана.

Редакцияның мекенжайы: 050010, Алматы қ., Шевченко көш., 28, 219 бөл., 220, тел.: 272-13-19, 272-13-18,
<http://nauka-nanrk.kz>, reports-science.kz

© Қазақстан Республикасының Ұлттық ғылым академиясы, 2018

Типографияның мекенжайы: «Аруна» ЖК, Алматы қ., Муратбаева көш., 75.

ДОКЛАДЫ
НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК
РЕСПУБЛИКИ КАЗАХСТАН

2018• 6

Г л а в н ы й р е д а к т о р
д.х.н., проф., академик НАН РК **М. Ж. Журинов**

Р е д а к ц и о н на я к ол л е г и я:

Адекенов С.М. проф., академик (Казахстан) (зам. гл. ред.)
Величкин В.И. проф., чл.-корр. (Россия)
Вольдемар Вуйцик проф. (Польша)
Гончарук В.В. проф., академик (Украина)
Гордиенко А.И. проф., академик (Беларусь)
Дука Г. проф., академик (Молдова)
Илолов М.И. проф., академик (Таджикистан),
Леска Богуслава проф. (Польша),
Локшин В.Н. проф. чл.-корр. (Казахстан)
Нараев В.Н. проф. (Россия)
Неклюдов И.М. проф., академик (Украина)
Нур Изура Удзир проф. (Малайзия)
Перни Стефано проф. (Великобритания)
Потапов В.А. проф. (Украина)
Прокопович Полина проф. (Великобритания)
Омбаев А.М. проф., чл.-корр. (Казахстан)
Отелбаев М.О. проф., академик (Казахстан)
Садыбеков М.А. проф., чл.-корр. (Казахстан)
Сатаев М.И. проф., чл.-корр. (Казахстан)
Северский И.В. проф., академик (Казахстан)
Сикорски Марек проф., (Польша)
Рамазанов Т.С. проф., академик (Казахстан)
Такибаев Н.Ж. проф., академик (Казахстан), зам. гл. ред.
Харин С.Н. проф., академик (Казахстан)
Чечин Л.М. проф., чл.-корр. (Казахстан)
Харун Парлар проф. (Германия)
Энджун Гао проф. (Китай)
Эркебаев А.Э. проф., академик (Кыргызстан)

Доклады Национальной академии наук Республики Казахстан»

ISSN 2518-1483 (Online),
ISSN 2224-5227 (Print)

Собственник: Республиканское общественное объединение «Национальная академия наук Республики Казахстан» (г. Алматы)

Свидетельство о постановке на учет периодического печатного издания в Комитете информации и архивов Министерства культуры и информации Республики Казахстан №5540-Ж, выданное 01.06.2006 г.

Периодичность: 6 раз в год.

Тираж: 500 экземпляров

Адрес редакции: 050010, г.Алматы, ул.Шевченко, 28, ком.218-220, тел. 272-13-19, 272-13-18
<http://nauka-nanrk.kz>, reports-science.kz

©Национальная академия наук Республики Казахстан, 2018 г.

Адрес типографии: ИП «Аруна», г.Алматы, ул.Муратбаева, 75

REPORTS

2018 • 6

OF NATIONAL ACADEMY OF SCIENCES OF THE
REPUBLIC OF KAZAKHSTAN

E d i t o r i n c h i e f
doctor of chemistry, professor, academician of NAS RK **M.Zh. Zhurinov**

E d i t o r i a l b o a r d:

Adekenov S.M. prof., academician (Kazakhstan) (deputy editor in chief)
Velichkin V.I. prof., corr. member (Russia)
Voitsik Valdemar prof. (Poland)
Goncharuk V.V. prof., academician (Ukraine)
Gordiyenko A.I. prof., academician (Belarus)
Duka G. prof., academician (Moldova)
Ilolov M.I. prof., academician (Tadzhikistan),
Leska Boguslava prof. (Poland),
Lokshin V.N. prof., corr. member. (Kazakhstan)
Narayev V.N. prof. (Russia)
Nekludov I.M. prof., academician (Ukraine)
Nur Izura Udzir prof. (Malaysia)
Perni Stephano prof. (Great Britain)
Potapov V.A. prof. (Ukraine)
Prokopovich Polina prof. (Great Britain)
Ombayev A.M. prof., corr. member. (Kazakhstan)
Otelbayev M.O. prof., academician (Kazakhstan)
Sadybekov M.A. prof., corr. member. (Kazakhstan)
Satayev M.I. prof., corr. member. (Kazakhstan)
Severskyi I.V. prof., academician (Kazakhstan)
Sikorski Marek prof., (Poland)
Ramazanov T.S. prof., academician (Kazakhstan)
Takibayev N.Zh. prof., academician (Kazakhstan), deputy editor in chief
Kharin S.N. prof., academician (Kazakhstan)
Chechin L.M. prof., corr. member. (Kazakhstan)
Kharun Parlar prof. (Germany)
Endzhun Gao prof. (China)
Erkebayev A.Ye. prof., academician (Kyrgyzstan)

Reports of the National Academy of Sciences of the Republic of Kazakhstan.

ISSN 2224-5227

ISSN 2518-1483 (Online),

ISSN 2224-5227 (Print)

Owner: RPA "National Academy of Sciences of the Republic of Kazakhstan" (Almaty)

The certificate of registration of a periodic printed publication in the Committee of Information and Archives of the Ministry of Culture and Information of the Republic of Kazakhstan N 5540-Ж, issued 01.06.2006

Periodicity: 6 times a year

Circulation: 500 copies

Editorial address: 28, Shevchenko str., of.219-220, Almaty, 050010, tel. 272-13-19, 272-13-18,
<http://nauka-nanrk.kz> / reports-science.kz

© National Academy of Sciences of the Republic of Kazakhstan, 2018

Address of printing house: ST "Aruna", 75, Muratbayev str, Almaty

**REPORTS OF THE NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF KAZAKHSTAN**

ISSN 2224-5227

<https://doi.org/10.32014/2018.2518-1483.50>

Volume 6, Number 322 (2018), 179 – 187

UDC 332.6

A. Omarova¹, Zh. Malgaraeva², A. Murzaliyeva³

¹Karaganda Economic University of Kazpotrebsoyuz, Karaganda, Kazakhstan,

^{2,3}Narxoz University Almaty, Kazakhstan

ainuraphd@mail.ru¹ zhanat.malgaraeva@narxoz.kz mak_878@mail.ru³

**Ensuring food security in the context
of the development of integration processes**

Abstract. Food security is one of the main objectives of the agrarian and economic policy of the state. In its general form, it forms the vector of movement of any national food system to an ideal state. Analysis of indicators of the state of the food market and the provision of the population with food, the selection of the most optimal of them for making effective management decisions is an important task in developing a strategy for ensuring the country's food security. Therefore, the purpose of this article is to assess food security in the Republic of Kazakhstan. The article analyses the statistical data of the Republic of Kazakhstan on ensuring food security in the country. The food security of the Republic of Kazakhstan is one of the main conditions for ensuring the national security of the country and the formation of a strong state, its successful long-term development and economic growth. The need for food security to ensure national security at the legislative level is enshrined in the Law of the Republic of Kazakhstan of January 6, 2012 "On the National Security of the Republic of Kazakhstan". In the Message of the President of the Republic of Kazakhstan - Leader of the Nation Nursultan Nazarbayev to the People of Kazakhstan "Strategy" Kazakhstan-2050 "- a new political course of the established state," the threat of global food security has identified among the ten global challenges of the XXI century for the Republic of Kazakhstan.

Keywords: food security, economic policy, government, competitiveness, agro-industrial complex.

The issue of food security is of particular relevance in the context of integration processes in the Eurasian Economic Union and the World Trade Organization, as well as by virtue of the mutual economic sanctions of the Russian Federation and the main Western countries.

In Kazakhstan, due to the large extent of the territory, the range of climatic conditions is large, which, in turn, contributes to the diversity of agricultural production in various regions of the republic:

- conditions of the northern region are favorable for the production of grain, flour;
- central region - livestock;
- southern regions - growing vegetables, fruits, rice.

The demand for foodstuffs is constantly increasing all over the world, including countries geographically located near Kazakhstan (Republic of the CIS, China), the tendency to decrease the supply will only develop in the future [1].

The logistics infrastructure in Kazakhstan is rapidly growing and developing, giving a huge export potential for a uniquely located Kazakhstan between the main food consumption markets - China, Russia, and Europe.

Food production is a strategically important industry that ensures the food security of the country. The sector is closely associated with agricultural production as a supplier of raw materials.

N.A. Nazarbayev, President of the Republic of Kazakhstan, stressed: "As today's reality shows, the situation on world markets can change dramatically, but there are markets for which demand is steadily growing. This is, above all, the food industry. I talk about it all the time. Therefore, it is necessary to expand the scope of state support measures for the project food industry. We have great opportunities. This is our niche that we don't use properly."

In accordance with the State Program "Digital Kazakhstan" approved by the Government of the Republic of Kazakhstan No. 827, the new digital revolution is changing the current modes of production,

the supply chain and the value chain. Industry 4.0, one of the drivers of the digital transformation of the industry, is a concept of organizing production, where additional value is provided through the integration of physical objects, processes and digital technologies, in which physical processes are monitored in real time, decentralized decisions are made, and interaction also occurs cars between themselves and people. The end-to-end digitalization of all physical assets and their integration create the basis for the transition from mass production to mass individualization, increases production flexibility, shortens the time to master new products, which allows implementing new business models and applying an individualized approach to working with clients. All this greatly increases the efficiency and competitiveness of industrial enterprises [2].

The experience of developed countries, such as the USA, Canada, Australia, shows that digital technologies are fundamentally changing an industry such as agriculture. Modern geographic information systems and big data obtained from various sources, contribute to obtaining high yields without depleting the soil, and with rational use of resources. Industrial Internet of Things allows you to create automated farms with remote control [3].

A well-developed logistics system and electronic commerce make it possible to reduce the cost of delivering agricultural products to the final consumer, even for small farms, while preserving its quality. This is an important factor in the preservation and development of the production of environmentally friendly products both in terms of preserving the health of the nation, and in terms of realizing the export potential.

There is a great potential for transformation in agriculture with the help of digital technologies, and in the conditions of the development of integration processes, agriculture is able to reach a qualitatively new level of development and become a driver of the country's economy. The main directions of the implemented measures of the program of digitization of agriculture are increasing yields and productivity, preserving the food security of the country.

As a methodological base, a system-structural approach was used to study the functioning of the agrarian sector in terms of its impact on the country's food security.

Ensuring food security occupies an important place in the overall economic policy of the state and affects such important indicators as the standard of living and savings of the population [4].

According to the Committee on World Food Security, it is recognized that food security is considered achieved when all people have constant physical and economic access to a sufficient amount of safe and nutritious food to satisfy their nutritional needs and taste preferences for introducing an active and healthy lifestyle.

Biryukov A.I. believes that food security as an economic category determines the sustainable development of the economic system, the target parameters of its operation and includes a subsystem of economic categories that characterize food independence, the degree of food supply in the regions, the economic and physical availability of food for the population, quality and ecological purity of food [5].

According to Eszhanova Zh.Zh., food security is the degree of provision of the population of the country with ecologically clean and healthy food of domestic production at scientifically-based standards and affordable prices [6].

The problem of food security is one of the fundamental strategic problems that must be solved to ensure stability in the state. Despite the fact that the approach to its solution in different states has its own national peculiarities, there is a general provision on supporting and ensuring the necessary level of food supply of the population in amounts that guarantee sustainable economic development and socio-political stability in society.

It is important to understand that the problem of food security should be considered from the point of view of system analysis. As part of solving this problem, the following important elements of it can be identified:

1) food independence, which is expressed in the ability of the state to produce a sufficient amount of food for the population;

2) the economic affordability of food products for the population, which is closely related to the reduction of poverty, as the change in food prices affects the purchasing power of the population, and the growth of living standards determines the availability of food products.

Solving the problems of food security and improving the competitiveness of the country's agro-industrial complex requires the participation of the state in this process, which regulates the conditions of activity and the system of relations between producers of agricultural products and foodstuffs, which will increase the competitiveness of domestic goods (products, works and services) on the domestic and global markets. This is especially relevant due to the high share of imports and due to the fact that the Republic of Kazakhstan joined the WTO.

Agriculture is one of the key sectors of the economy of Kazakhstan. The level of development of the agricultural sector has always acted and continues to be a determining factor in the economic and socio-political stability of Kazakhstan's society. Being one of the priority directions of development of the republic's economy, agriculture has a huge potential and large reserves, the diverse climatic conditions of Kazakhstan make it possible to grow almost all the cultures of the temperate heat belt and develop animal husbandry.

The state agrarian policy should form a mechanism that is an interrelated set of organizational, economic, social, legal and political conditions that provide favorable opportunities for the sustainable development of competitive reproduction in the agro-industrial sector in order to fully meet the needs of the population in food and other goods produced from agricultural raw materials in sufficient quantities and at affordable prices.

According to the Statistics Committee of the MNE RK, the gross domestic product in Kazakhstan increased in 2017, according to preliminary data, by 4%, which is significantly higher than in 2015 and 2016, when growth reached 1.2% and 1.1% respectively. In addition, we can talk about the revival in the economy. GDP growth was largely due to the increase in production in the mining industry - by 9.3%. In particular, due to the improvement of foreign economic conditions on the commodity markets.

Also, growth in GDP was supported by an increase in manufacturing in the manufacturing industry by 5.1%, transport - by 4.8%, wholesale and retail trade - by 3.2%, in real estate operations - growth by 2.1% (Table 1).

Table 1 - Analysis of GDP and agriculture of the Republic of Kazakhstan, in % to the last year

Indicator	2010	2011	2012	2013	2014	2015	2016	2017
GDP	8	8	5	6	4	2	3	5
Agriculture	-11	23	-14	9	2	5	6	3

Note: compiled by authors according to [7]

Gross agricultural output in 2017 increased by 2.9%. Growth was observed both in crop production (by 2.2%) and in animal husbandry (by 3.9%) (Table 2).

Table 2 - Analysis of the agricultural sectors of the Republic of Kazakhstan

Indicator	2010	2011	2012	2013	2014	2015	2016	2017
Agriculture	-11	23	-14	9	2	5	6	3
Plant growing	-20	48	-22	10	-5	5	8	3
Livestock	4	-1	-5	2	5	4	3	5

Note: compiled by authors compiled by authors according to [7]

The volume of investment in fixed assets in the economy in 2017 increased by 5.5% (5.1% in 2016). As the National Bank of Kazakhstan notes, against the background of growing positive expectations from the business and stabilization of inflation processes in the economy, investment activity from the beginning of 2017 has marked by a positive trend. At the same time, about 55% of investments in fixed assets were directed to the industrial sector, primarily in the extraction of crude oil and natural gas, which occurred against the background of rising world oil prices.

Investment in agriculture, forestry and fisheries in 2017 increased compared with the previous year by a significant 29.3% and amounted to 352.5 billion tenge. According to the Statistics Committee of the MNE RK, the main grain-producing regions - North Kazakhstan, Kostanay and Akmola regions - sent 145.6 billion tenge to the industry, which accounted for the majority of investments in agriculture, forestry

and fisheries (41.3%). In 2016, investment growth was also significant, at 46.7%. This increase in investment in the industry is to a large extent due to the implementation of state programs to support agriculture (Table 3).

Table 3 - Investments in fixed capital of the Republic of Kazakhstan

Indicator	2010	2011	2012	2013	2014	2015	2016	2017
Agriculture	4	25	15	3	19	-9	48	30
Investments in fixed capital	-4	4	5	9	5	4	45	30

Note: compiled by authors according to Electronic resource [8]

In this regard, in order to improve the investment climate in August 2017, the Ministry of Investment and Development of the Republic of Kazakhstan approved the National Investment Strategy for 2018-2022. In accordance with the instructions of the President of the Republic of Kazakhstan, the strategy focused on the need to attract foreign investment in the non-primary sectors of the economy of Kazakhstan, as well as increase their export potential.

In accordance with the Strategy, by 2022 it is planned to increase the volume of investments in the fixed capital of the non-resource sector of the economy (excluding the state budget) by 1.46 times, and the volume of foreign investments in the fixed capital of the non-resource sector of the economy will increase 1.5 times.

To analyze the impact of investments in fixed capital in agriculture on the volume of gross agricultural output, we will build a model with a distributed lag (assuming a lag value of three):

$$y_t = \alpha + \beta_0 x_t + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \beta_3 x_{t-3}$$

Using the Almon method, we obtain the following model with a distributed lag:

$$y_t = 1374678,93 + 1,10x_t - 1,36x_{t-1} + 2,59x_{t-2} + 12,94x_{t-3}.$$

Analysis of the model shows that an increase in the volume of investment in the fixed capital of agriculture by 1 million tenge in the current period will lead to an average increase in the volume of gross agricultural output by 1.1 million tenge in the same period.

With an increase in investment in the current period by 1 million tenge, the gross output will decrease by $1.36 - 1.1 = 0.26$ million tenge in a year.

However, in two years, today's increase in investment will contribute to an increase in the gross output by $1.1 - 1.36 + 2.59 = 2.33$ million tenge, and in three years by $1.1 - 1.36 + 2.59 + 12.94 = 15.27$ million tenge.

Calculate the contribution made by each lag:

$$w_0 = \frac{\beta_0}{\beta} = \frac{1,1}{15,27} = 0,072 \quad w_2 = \frac{\beta_2}{\beta} = \frac{2,59}{15,27} = 0,170$$

$$w_1 = \frac{\beta_1}{\beta} = \frac{-1,36}{15,27} = -0,089 \quad w_3 = \frac{\beta_3}{\beta} = \frac{12,94}{15,27} = 0,847$$

The results show that 84.7% of the total growth in gross agricultural output, caused by the growth in investment in fixed assets in this industry, occurs after three years; in two years this growth is 17%, and in the current period it is only 7.2%. At the same time, an increase in the volume of investments will contribute to a decrease in the volume of gross output in a year by 8.9%.

The average lag of the model will be equal to:

$$\bar{l} = 0 \cdot 0,072 - 1 \cdot 0,089 + 2 \cdot 0,170 + 3 \cdot 0,847 = 2,79 \text{ (years).}$$

Thus, the lag of 2.79 years indicates that most of the effect of the increase in the volume of investments in fixed assets in agriculture occurs after two and a half years.

In the framework of the State Program "Digital Kazakhstan" for 2017-2020. The goal is to introduce digital technologies to control food safety products entering Kazakhstan from third countries, as well as being exported from the country to other EAEU states.

Table 4 - Dynamics of import and export of products of animal and vegetable origin, finished food products for the period 2012-2017

Indicator	Unit	2012	2013	2014	2015	2016	2017
Import	in mln dollars	4257,8	4619,4	4335,9	3393,1	3081,3	1646,2
Export	in mln dollars	2984,6	2733,4	2637,7	2136,2	2150,0	1667,9
Share of import	%	9,2	9,5	10,5	11,1	12,1	10,7
Share of export	%	3,5	3,2	3,3	4,6	5,9	4,3

Note: compiled by authors

According to the data presented in Table 4, there is still a trend towards a decrease in the volume of imports of basic foodstuffs in the Republic of Kazakhstan, in favor of increasing domestic production. The volume of imports in monetary terms shows a positive downward trend - from 4,619 million US dollars in 2013 to 3,081 million US dollars in 2016.

During 2012-2016 The net volume of food exports in monetary terms was stable - at around \$ 2 million, and the share of exports tends to increase (5.9% in 2016). At the end of 2016, there was almost doubled growth in exports in tenge equivalent - up to 1,054 billion tenge.

The reduction in the volume of imports in monetary terms, primarily due to the rise in prices of imported products against the background of the general strengthening of the US currency, which over the past three years has risen significantly in relation to the tenge. This factor had a decisive influence on the gradual reorientation of domestic consumer demand in favor of products with the lowest added value, including from the CIS, as well as domestic production.

In general, starting from 2016, the total volume of food industry production amounted to 1,808.6 billion tenge (+ 30%). According to preliminary data, for 11 months. In 2017, the volume of food industry production amounted to 1,712 billion tenge (Table 5).

Table 5 - The volume of production of food industry branches of the Republic of Kazakhstan for the period 2012-2017

Indicator	Unit	2012	2013	2014	2015	2016	2017
Import	in mln dollars	4257,8	4619,4	4335,9	3393,1	3081,3	1646,2

Note: compiled by authors according to Data analysis of the RFCA [9]

According to the review on current and problematic issues implementation of the coordinated (coordinated) agribusiness policy of the EAEU Member States, Imports of agricultural products and food in value terms in 2016 decreased to all Member States relative to 2015 (Table 6).

In 2016, the main imports were fruits, meat and offal, alcoholic and non-alcoholic beverages, vegetables, oilseeds and fruits, fish and crustaceans, various foods, as well as coffee and tea. The share of these goods accounted for 64% of total imports of food products and agricultural raw materials in terms of value.

In this regard, it is urgent to reduce dependence on imports of food products to the Union market due to the realization of the potential of mutual trade of member states [11].

Regarding Kazakhstan, we would like to note that the low level of labor productivity in agriculture of the republic, a high level of wear of agricultural equipment (up to 70%), imperfection of the technologies used, small-scale production (75% of gross output falls on households and peasant farms) do not allow agricultural production on an intensive basis, to ensure the most complete use of material, labor and other resources, to comply with environmental requirements. These factors reduce the competitiveness of the

domestic agricultural sector, which in the conditions of the WTO and the EAEU can lead to the dominance of imports of foreign products, the displacement of local producers from the markets and the risks of transforming the country's agriculture into natural state. Today, agriculture employs 25% of the working population, which is of great importance for the country.

Table 6- Foreign trade in agricultural products and food of the EAEU Member States, in mln dollars

Countries	Years				
	2012	2013	2014	2015	2016
Turnover					
EAEU	61 967,8	62 471,0	61 470,6	45 283,6	43 432,7
Armenia	-	-	792,4	646,7	676,9
Belarus	3 462,0	3 847,1	4 176,0	3 973,0	3 404,9
Kazakhstan	5 148,6	4 907,2	4 554,3	3 594,1	3 398,7
Kyrgyzstan	-	-	433,5	325,0	237,0
Russia	53 357,2	53 716,6	51 514,3	36 744,9	35 715,2
Export					
EAEU	18 348,9	16 902,7	18 887,0	16 288,5	16 941,1
Armenia	-	-	178,1	221,2	262,9
Belarus	801,3	823,1	623,9	502,6	310,8
Kazakhstan	2 764,3	2 236,0	2 071,3	1 661,9	1 705,7
Kyrgyzstan	-	-	112,3	115,6	77,9
Russia	14 783,2	13 843,7	15 901,4	13 787,2	14 583,9
Import					
EAEU	43 619,0	45 568,3	42 583,6	28 995,1	26 491,6
Armenia	-	-	614,3	425,5	414,1
Belarus	2 660,7	3 024,1	3 552,1	3 470,3	3 094,1
Kazakhstan	2 384,0	2 671,3	2 483,0	1 932,2	1 693,0
Kyrgyzstan	-	-	321,2	209,4	159,1
Russia	38 574,0	39 872,9	35 612,9	22 957,6	21 131,3
Net					
EAEU	-25 270,1	-28 665,5	-23 696,6	-12 706,6	-9 550,5
Armenia	-	-	-436,1	-204,3	-151,2
Belarus	-1 859,3	-2 201,0	-2 928,2	-2 967,7	-2 783,4
Kazakhstan	380,0	-435,3	-411,7	-270,3	12,7
Kyrgyzstan	-	-	-209,0	-93,8	-81,2
Russia	-23 790,8	-26 029,2	-19 711,5	-9 170,4	-6 547,4

Note: compiled by authors [10]

The priority goal of the agricultural policy in Kazakhstan is to increase the efficiency of agricultural production and protect the interests of representatives of the agricultural market and consumers. Significant measures are being taken to raise the agrarian sector of the economy. In order to change the situation and increase the production of raw materials and food in the sectoral program "Agribusiness 2020", various measures are provided and tasks are identified, a comprehensive solution of which should contribute to the formation of conditions for the sustainable development of the agricultural sector.

It is obvious that sustainable development of the agro-industrial complex and ensuring food security can be achieved only on the basis of a new paradigm of scientific and technological development of the agricultural sector, based on new knowledge and an innovative economy.

Naturally, the development of integration relations will force to rethink some approaches to solving purely national problems of socio-economic development in the framework of the EAEU. In the context of integration, collective responsibility for solving a particular problem, including in the area of food security, is strengthened. Therefore, collective efforts should be aimed at solving the following tasks:

- ensuring, on the basis of mutually beneficial exchange, the necessary level of provision of basic foodstuffs at the expense of the internal potential of the agro-industrial production of the EAEU countries;
- creation of food reserves for joint regulation of the situation on the Eurasian food market;
- joint investment in the development of the food sector and the development of an environmentally friendly food fund;

- joint investment in order to overcome the technical and technological lag and modernization of the agro-industrial complex;

- overcome through the creation of single funds of the existing differences in the level of state support for rural producers, etc. [12].

All the measures listed above should ultimately be aimed at improving the competitiveness of the food industry of the EAEU countries, carrying out effective exchange operations to foreign markets and, above all, within the framework of an integration group.

In order to further develop the agricultural industry in the country, it is planned to implement a number of activities aimed at automating the traceability of agricultural products with the inclusion of all authorized organizations involved in the process, which will allow quantitative and qualitative accounting and trace the entire life cycle of production and origin of agro-industrial products. The implementation of the traceability system will have a direct impact on attracting investment in the industry and expanding both the export product line and the geography of supplies of agricultural products and products of deep processing [13]. The introduction of full monitoring under the traceability system will also improve the quality standards of agricultural products, which multiplicatively affects the attractiveness and competitiveness of Kazakhstan products in foreign markets.

To implement "precision farming", a pilot project will be conducted in a number of farms using elements of "precision farming", including the use of meteorological stations. According to the results of the pilot project, the economic efficiency of the widespread use of "precision farming" will be determined [14].

The development and introduction of elements of precision farming in all regions of the Republic of Kazakhstan are assumed to simplify activities, increase yields and productivity in the sector. The manufacturer will be able to make a decision based on the array of data received in real time, on the state of crops, moisture, nutrients, nitrogen, potassium, phosphorus, pests, and probability of precipitation [15]. At the same time, the introduction of elements of precision farming will be carried out in conjunction with the acquisition of new agricultural equipment, the implementation of agricultural technologies and as far as farmers are ready.

It also includes measures to automate the monitoring of natural resources, including the circulation of fish and fish products, protection, reproduction and use of wildlife, monitoring of specially protected natural areas, accounting in the use and protection of water resources, water use and water management supervision [16].

This event will reduce, and subsequently eradicate poaching and the shadow turnover of fish products, illegal logging of forest resources, the collection and timely processing of information about the activities of organizations and enterprises engaged in entrepreneurial activities related to natural resources. Monitoring of water resources is particularly important due to the special importance of water resources and water supply for all sectors of the economy of Kazakhstan.

Along with the creation of new and the development of existing state information systems in the agro-industrial complex of Kazakhstan, the condition for the creation and implementation of automated systems in agricultural entities themselves is essential and important [17]. The experience of all the leading agrarian countries of the world is an indisputable example of such an approach. A lot of IT solutions for all the numerous processes in agricultural production and processing directly and mainly affect the efficiency of doing business, increasing productivity, profitability and ultimately the competitiveness of agro-enterprises, from small farms to large agroformations.

The problem of food security is the main priority of the strategy of economic policy of any state, the effectiveness of the solution of which depends not only social, but political stability in society. Food security, as an integral part of national security, is conditioned by the availability of state resources, and is intended to prevent imbalances in the production market.

Thus, in Kazakhstan, the problem of food security requires finding further ways to solve it in order to reduce import dependence, improve the availability of food for the population, and especially for people with incomes below the subsistence minimum.

In formulating food security policies, it is necessary to consider all four of its main elements in a complex and to determine precisely the institutions responsible for their implementation. This requires intersectoral solutions involving key ministries (health, agriculture, education, social welfare, economic

development and infrastructure), the private sector, as well as leading governmental and non-governmental organizations whose participation will allow a comprehensive study of the relationship between economic, environmental and social aspects of food security. In addition, it is necessary to continuously monitor changes in policy and to determine the most effective methods [18].

In modern economic conditions, the problem of ensuring national food security is complex, directly related to the sustainable macroeconomic development of the state, its ability to implement socially oriented policies, the steady increase in the living standards of the population, and the use of the advantages of the international division of labor in agricultural production. At the same time, for Kazakhstan, the basis for strengthening food security is, above all, improving the functioning of the domestic agricultural sector and its basic industries through:

- mobilizing the potential of our own agro-industrial production, capable of guaranteeing a reliable supply of the country's population with domestic food, primarily its basic types, regardless of the situation on the world food market;

- formation of competitive food markets, creation of legislative base and infrastructure for their effective development, protection of domestic agricultural producers from unhealthy competition and unfavorable conjuncture of world markets for agricultural products, raw materials and food;

- ensuring the optimization of inter-sectoral economic relations in order to achieve such a ratio of prices for agricultural and industrial products, which would stimulate an increase in the rates of expanded reproduction, especially in agriculture [19];

- improving the system of short-term, medium-term and especially long-term lending, ensuring the availability of loans for the bulk of agricultural producers, creating relatively favorable economic conditions for the attractiveness of investments and growth of investment activity in the agro-industrial production;

- creating a system of reliable guarantees of the quality of food entering the domestic market by ensuring tight control over the technologies applied throughout the food chain and, especially, over imported products;

- increasing and rational use of food resources by increasing the technological level of agricultural production and encouraging the introduction of resource-saving and environmentally friendly production technologies[20];

- the formation and development of large-scale specialized zones for the production of main types of agricultural products, the elimination of various barriers and administrative restrictions on the movement of agricultural products, raw materials and food inside the country[21].

For Kazakhstan, at present, the main condition for ensuring food security is the intensive development of the agricultural and food industries, which will enable the agricultural sector to become a leading sector of the economy, which, ultimately, should contribute to the growth of the country's food self-sufficiency. Taking into account the importance of this issue, the agro-industrial sector is given one of the main directions in the strategic policy of our state.

REFERENCES

- [1] Law of the Republic of Kazakhstan. (2012) On the National Security of the Republic of Kazakhstan.
- [2] Law of the Republic of Kazakhstan. (2018) On state regulation of the development of the agroindustrial complex and rural territories". 2018.
- [3] State program. (2017) Digital Kazakhstan.
- [4] Committee of World Food Security. (2017)
- [5] Biryukov A. (2014) Food Security of Russia: Problems and Prospects. Moscow. P. 345.
- [6] Eszhanova Zh. (2015) The mechanism for ensuring food security in the Republic of Kazakhstan. Almaty. P. 135.
- [7] Data from the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan.
- [8] Electronic resource. www.fcc.kz.
- [9] Data analysis of the RFCA. (2017)
- [10] Overview on current and problematic issues implementation of a coherent (coordinated) agro-industrial policy. (2017) Department of agro-industrial policy of the Eurasian Economic Commission. Moscow. P. 148.
- [11] Review of the food industry of Kazakhstan. (2018) Almaty. P. 56.
- [12] Momunov U. (2017) Conceptual approaches to ensuring national food security in the context of Eurasian integration. Reform-2017, № 1, P. 8-12.
- [13] Brown H. (2017) Investment lending in the agricultural sector: problems and solutions. Moscow: Higher school. P.156.

- [14] Topsala F. (2003) Improvement of the mechanism of investment as a condition for increasing the attractiveness of agriculture. Finances and credit. P. 89.
- [15] Grifenson M. (2006) Government and business: principles of interaction, Moscow. P. 98.
- [16] Adams T., Morrow K. (2005) Government Regulation of Agribusiness, London. P. 124.
- [17] Branson L. (2005) Principles of Welfare State, Boston, MacGregor Publishing House. P. 91.
- [18] Collins K. (2006) Government Support of Food Exporters: Principles and Practice, Sydney. P. 122.
- [19] Reddison T. (2006) Sustainable Growth of Agricultural Production, London: LVP, P. 152.
- [20] Lindelson G. (2006) Holding Structures in Agrobusiness: Principles of Sustainable Performance, London: HDP Press. P. 97.
- [21] Kurmanalina A., Yemelina N., Omarova A. (2018) Management in the agro-industrial complex, Bulletin of the national academy of sciences of the Republic of Kazakhstan, № 3(373), P. 80-86. <https://doi.org/10.32014/2018.2518-1467> ISSN 2518-1467 (Online), ISSN 1991-3494 (Print)

А. Омарова¹, Ж. Малгараева², А. Мурзалиева³

¹ Қазұтынуодағы Қарағанды экономикалық университеті, Караганды қ., Қазақстан,

^{2,3} Нархоз Университеті, Алматы, Казахстан

ИНТЕГРАЦИЯЛЫҚ ҮДЕРІСТЕРДІ ДАМЫТУ ЖАҒДАЙЫНДАҒЫ АЗЫҚ-ТҮЛІК ҚАУІПСІЗДІКТІ ҚАМТАМАСЫЗ ЕТУ

Аннотация. Азық-түлік қауіпсіздігі мемлекеттің аграрлық және экономикалық саясатының басты мақсаттарының бірі болып табылады. Ол өзінің жалпы түрінде кез келген үлттық азық-түлік жүйесінің идеалды жағдайға қозғалыс бағытын қалыптастырады.

Азық-түлік нарығы жай-куйінің көрсеткіштерін талдау және халықты тамак өнімдерімен қамтамасыз ету, тиімді басқару шешімдерін қабылдау үшін олардың неғұрлым онтайлылығын таңдау елдің азық-түлік қауіпсіздігін қамтамасыз ету стратегиясын әзірлеу кезінде маңызды міндет болып табылады. Сондыктан осы баптың мақсаты Қазақстан Республикасында азық-түлік қауіпсіздігіне бағалау жүргізу болып табылады. Мақалада елімізде азық-түлік қауіпсіздігін қамтамасыз ету бойынша Қазақстан Республикасының статистикалық деректеріне талдау жүргізілді.

Түйін сөздер: азық-түлік қауіпсіздігі, экономикалық саясат, Мемлекеттік басқару, бәсекеге қабілеттілік, агроенеркәсіптік кешен.

УДК 332.6

А. Омарова¹, Ж. Малгараева², А. Мурзалиева³

Карагандинский Экономический Университет Казпотребсоюза, г. Караганда, Казахстан¹,

Университет Нархоз, Алматы, Казахстан^{2,3}

ОБЕСПЕЧЕНИЕ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ В УСЛОВИЯХ РАЗВИТИЯ ИНТЕГРАЦИОННЫХ ПРОЦЕССОВ

Аннотация. Продовольственная безопасность является одной из главных целей аграрной и экономической политики государства. В своем общем виде она формирует вектор движения любой национальной продовольственной системы к идеальному состоянию.

Анализ показателей состояния продовольственного рынка и обеспечения населения продуктами питания, выбор наиболее оптимальных из них для принятия эффективных управленческих решений является важной задачей при выработке стратегии обеспечения продовольственной безопасности страны. Поэтому целью данной статьи является проведение оценки продовольственной безопасности в Республике Казахстан. В статье произведен анализ статистических данных Республики Казахстан по обеспечению продовольственной безопасности в стране.

Продовольственная безопасность Республики Казахстан является одним из главных условий обеспечения национальной безопасности страны и формирования сильного государства, его успешного долгосрочного развития и экономического роста. Необходимость продовольственной безопасности для обеспечения национальной безопасности на законодательном уровне закреплена в Законе Республики Казахстан от 6 января 2012 года «О национальной безопасности Республики Казахстан». В Послании Президента Республики Казахстан - Лидера нации Нурсултана Назарбаева народу Казахстана «Стратегия «Казахстан-2050» - новый политический курс состоявшегося государства» угроза глобальной продовольственной безопасности определена в числе десяти глобальных вызовов XXI века для Республики Казахстан.

Ключевые слова: продовольственная безопасность, экономическая политика, государственное управление, конкурентоспособность, агропромышленный комплекс.

Information about authors:

Omarova A. T. - doctor of Economics, associate Professor Karaganda Economic University of Kazpotrebsoyuz, Karaganda; Mangareva Janat Kabdrakhmanovna - Ph. D., associate Professor of the University Narkhoz, Almaty;

Murzalieva A. - trainer Educational program of ACCA University Narkhoz, Almaty

МАЗМҰНЫ

Техникалық ғылымдар

Асембаева Э.К., Галстян А.Г., Сейдахметова З.Ж., Велямов Т.М. Нурмуханбетова Д.Е. Түйе сүті негізінде пребиотикалық қасиеттері бар сұтқышқылды сусындарды өндірудің технологиялық көрсеткіштерін зерттеу.....	5
Буктуков Н.С., Айткулов М. Жаңа бұынның күн фотоэлектрлік батареяларының тиімділігі.....	12
Қазиев Ф.З., Таубекова А.Ә. Деректер корын өндіең күрделі жүйесінің ыдырау әдістері.....	18
Кенжебаева Ж.Е., Исабаева Г.Ж., Жұнисова Ж.Қ. Киберқауіпсіздігі.....	21

Биология және медицина ғылымдар

Берсімбаев Р.І., Ақпарова А.Ю., Арипов А.А., Қауысбекова А.Ж. мікроРНҚ және FOXP3, ADRB2 гендері полиморфизмінің өкпе ауруларындағы рөлі.....	25
Айткенова Г.Т., Есбенбетова Ж.Х., Әбікенова Ш.К., Мұқанова Д.Б. Жұмсақ жабын және гидроокшаулағыш материалдар өндірісі бойынша кәсіпорын мысалында еңбек тәуекелі дәрежесіне байланысты зиянды және қауіпті еңбек жағдайларында, ауыр жұмыстарда айналысатын жұмыскерлерге кепілдіктер түрі мен көлемін бекіту әдісін қолданудың тиімділігін талдау.....	32
Демченко Г.А., Ахметбаева Н.А. Жас және ересек жануарлар денесінің әртүрлі аймақтарындағы лимфа түйіндерінің адренергетикалық иннервациясы.....	40
Мырзаханова М.Н., Мырзаханов Н. Лимфатикалық жәрметтердегі раттамалардың лимфатициясы қозғалысына қатысты факторлар.....	45

Қоғамдық ғылымдар

Аюпова З.К., Құсайынов Д.Ә., Уинстон Наган. Қазіргі Қазакстан республикасы құқықтық жүйесіндегі дауларды сотка дейінгі реттеу мәселесіне	49
Абдуғалина С.Е., Байдалина М.Е., Исқакова З.Ж. Жоғарғы білім беру үрдісіне инновациялық технологияларды енгізу.....	57
Галиева А.Х., Саду Ж.Н., Кулубеков М.Т., Казбекова Л.А. Білім және ғылым инновациялық экономиканы дамыту факторы ретінде.....	62
Джумабекова А.Т., Алина Г.Б. ҚР ұлттық банкінің акша-кредит саясатының рөлі мемлекеттік экономикалық даму.....	68
Ердешова Ж.И., Сарсенова А.Б., Тажигалиева М.Ж. Азamatтық процесте үй мәселесін шешу.....	72
Ескалиева А.Ж., Әдіетова Э.М., Габдулин Н.И. Инновациялық экономиканың шарттарындағы әлеуметтік саладағы адам қаржылық капиталының түрлері.....	76
Жақышева К.М., Жұманова Д.Т. Аграрлық сектордың кәсіпорындары қаржылық шарттарын мониторингтің теориялық және практикалық аспектілері.....	81
Исібаева З.К., Бейсенова Л.З. Қазакстан республикасындағы мемлекеттік ресурстарды пайдалануға арналған ішкі аудиттің аудитіндегі нәтижелерді бағалау.....	88
Карипбаев Б.И. «Кездейсқытық» категориясы толеранттылық пен плорализмді легитимизациялау факторы ретінде.....	92
Молдакенова Е.К., Аугезова К.Т., Амренова Г.К. Агро-өндірістік кешендің кәсіпорындарын ұйымдастырылық құрылымын басқаруды жаңырту.....	98
Мукашева Г.М., Аймурзина Б.Т. ҚР және Монголияның жанаramidsының нарықтық шарттарын салыстыру.....	102
Несілбеков Е. Н., Аппакова Г.Н. «Қазақстан темір жолы» ұлттық компаниясы акционерлік коғамы мысалында инвестиациялық қаржынды қылыштастыру.....	106
Омарханова Ж. М., Тлеужанова Д. А., Амангельдиева Ж. А., Баймагамбетова З. А. Ақмола облысының агропромышлен комплексінің жақсарту негізгі бағыттар.....	111
Панзабекова А.Ж. Туризмді әртаратандырудың ҚР өнірлік ерекшеліктерімен өзара байланысы.....	114
Сарсенбаева К.А., Утегенова Ж.С. Жоғары мектеп арқылы педагогикада білім беру және инновациялық басқару..	121
Сейсенбина А.А. ҚР азық-түлік өнеркәсібі кәсіпорындарының инновациялық дамуын басқару.....	125
Татибеков Б.Л. Цифрландыру шарттарындағы Қазақстанның еңбек нарығын дамыту және формализациялау стратегиясы.....	129
Шугаипова Ж.Г. Рыночные механизмы развития минерально-сырьевого комплекса Казахстана на современном этапе	137
Бикенова А.С., Мадышева А.М., Нұргабылов М.Н., Карабаева Р.К. Туристік қызметтер саласындағы мұлтікіз менеджменті.....	144
Даузова А.М., Даура Стефан. Жер ресурстарын бағалаудың едіснамалық аспектілері мәселесіне.....	149
Құсайынова А.А., Вальдемар Козловски, Геращенко И. П. Қаржы нарығының инновациялық сақтандыру өнімдерін дамыту.....	155
Успамбаева М. К., Ракаева А.Н., Амренова Г.К. Мемлекеттік аудит экономиканы басқару жүйесінде.....	161
Утепқалиева К.М., Сабирова Р.К., Кабдулова А.С. Қазақстанның аграрлық саласындағы шағын және орта кәсіпкерлікти дамыту.....	169
Шаукерова З.М., Абылжарова Г.Ж., Касымова А.Г. Шоғырландырылған қаржылық есептіліктің аудитіндің ағымдағы мәселелері.....	175
Омарова А., Малгараева Ж., Мурзалиева А. Интеграциялық үдерістерді дамыту жағдайындағы азық-түлік қауіпсіздікі қамтамасыз ету.....	179
Таспенова Г.А., Карипова А., Алишева Д.Е. Өртаратандырудың экономикалық стратегиясына әсер ететін факторларды талдау.....	188

СОДЕРЖАНИЕ

Технические науки

Асембаева Э.К., Галстян А.Г., Сейдахметова З.Ж., Велямов Т.М., Нурмуханбетова Д.Е. Исследование технологических параметров производства кисломолочного напитка с пребиотическими свойствами на основе верблюжьего молока.....	5
---	---

Буктуков Н.С., Айткулов М. Эффективность солнечных фотоэлектрических батарей нового поколения.....	12
--	----

Казиев Г.З., Таурбекова А.А. Методы декомпозиции сложных систем обработки данных.....	18
---	----

Кенжебаева Ж.Е., Исабаева Г.Ж., Жунусова Ж.К. Кибербезопасность.....	21
--	----

Биологические и медицинские науки

Берсимбаев Р.И., Акпарова А.Ю., Арипова А.А., Каусбекова А.Ж. Роль микроРНК и полиморфизма FOXP3 и ADRB2 генов в патогенезе бронхолегочных заболеваний.....	25
---	----

Айткенова Г.Т., Есбенбетова Ж.Х., Абикенова Ш.К., Муканова Д.Б. Анализ эффективности применения методики установления вида и объема гарантий работникам, занятых на тяжелых работах, работах с вредными и опасными условиями труда в зависимости от степени профессионального риска на примере предприятия по производству мягких кровельных и гидроизоляционных материалов.....	32
--	----

Демченко Г.А., Ахметбаева Н.А. Адренергическая иннервация лимфатических узлов из разных регионов тела у молодых и зрелых животных.....	40
--	----

Мырзаханова М.Н., Мырзаханов Н. Факторы, обеспечивающие передвижение лимфы крыс по лимфатическим сосудам кишечника.....	45
---	----

Общественные науки

Аюрова З.К., Кусаинов Д.У., Уинстон Наган. К вопросу о досудебном регулировании конфликтов в современной правовой системе Республики Казахстан.....	49
---	----

Абдугалина С.Е., Байдалина М.Е., Исакова З.Ж. Внедрение инновационных технологий в образовательный процесс высшей школы.....	57
--	----

Галиева А.Х., Саду Ж.Н., Кулубеков М.Т., Казбекова Л.А. Образование и наука как факторы развития инновационной экономики.....	62
---	----

Джусумбекова А.Т., Алина Г.Б. Роль денежно-кредитной политики национального банка РК в экономическом развитии государства.....	68
--	----

Ердешова Ж.И., Сарсенова А.Б., Тажигалиева М.Ж. Разрешение жилищных споров в гражданском процессе.....	72
--	----

Ескалиева А.Ж., Адиетова Э.М., Габдулин Н.И. Формирование человеческого капитала в социальной сфере в условиях инновационной экономики.....	76
---	----

Жакишева К.М., Жуманова Д.Т. Теоретические и практические аспекты мониторинга финансового состояния предприятий аграрного сектора.....	81
--	----

Игibaева З.К., Бейсенова Л.З. Оценка влияния внутреннего государственного аудита на использование государственных ресурсов в Республике Казахстан.....	88
--	----

Карипбаев Б.И. Категория «случайности» как фактор легитимации толерантности и плюрализма.....	92
---	----

Молдакенова Е.К., Ауезова К.Т., Амренова Г.К. Модернизация организационной структуры управления предприятий агропромышленного комплекса.....	98
--	----

Мукашева Г.М., Аймурзина Б.Т. Сравнительный анализ рыночных условий зернового хозяйства РК и Монголии...	102
--	-----

Несипбеков Е.Н., Аппакова Г.Н. Формирование инвестиционного портфеля на примере АО НК «Казахстан темир жолы».....	106
---	-----

Омарханова Ж. М., Тлеужанова Д. А., Амангельдиева Ж. А., Баймагамбетова З. А. Основные направления по совершенствованию агрофранчайзинга в Акмолинской области.....	111
---	-----

Панзабекова А.Ж. Взаимосвязь диверсификации туризма с региональными особенностями развития Республики Казахстан.....	114
--	-----

Сарсенбаева К.А., Утегенова Ж.С. Образовательный процесс и инновационный менеджмент в современной педагогике в высшей школе.....	121
--	-----

Сейсенбина А.А. Управление инновационным развитием предприятий пищевой промышленности в РК.....	125
---	-----

Татибеков Б.Л. Стратегия развития и формализации рынка труда Казахстана в условиях цифровизации.....	129
--	-----

Шугапова Ж.Г. Қазіргі кезеңде Қазақстанның минералды-шикізат кешенін дамытудың нарықтық механизмдері..	137
--	-----

Бикенова А.С., Мадышева А.М., Нұргабылов М.Н., Карабаева Р.К. Тотальный менеджмент в сфере туристических услуг	144
--	-----

Даузова А.М., Даура С. К вопросу о методологических аспектах оценки земельных ресурсов	149
--	-----

Кусаинова А.А., Козловски Вальдемар, Геращенко И.П. Развитие инновационных страховых продуктов финансового рынка.....	155
---	-----

Успамбаева М. К., Ракаева А.Н., Амренова Г.К. Государственный аудит в системе управления экономикой	161
---	-----

Утепкалиева К.М., Сабирова Р.К., Кабдулова А.С. Развитие малого и среднего предпринимательства в аграрной сфере Казахстана.....	169
---	-----

Шаукерова З.М., Абдыкерова Г.Ж., Касымова А.Г. Актуальные проблемы организации аудита консолидированной финансовой отчетности.....	175
--	-----

Омарова А., Малгарадаева Ж., Мурзалиева А. Обеспечение продовольственной безопасности в условиях развития интеграционных процессов.....	179
---	-----

Таспенова Г.А., Карипова А., Алишева Д.Е. Анализ факторов, влияющих на экономическую стратегию диверсификации.....	188
--	-----

CONTENTS

Technical sciences

<i>Assembayeva E.K., Galsyan A.G., Seidakhmetova Z.Zh., Velyamov T.M., Nurmukhanbetova D.E.</i> Investigation of technological parameters of production of sour-milk drink with prebiotic properties on the basis of camel milk.....	5
<i>Buktukov N.S., Aitkulov M.</i> Efficiency of new generation solar photoelectric batteries.....	12
<i>Kaziev G.Z., Taurbekova A.A.</i> The decomposition methods of complex data processing systems.....	18
<i>Kenzhebayeva Z.E., Isabayeva G.Zh., Zhunusova Zh.K.</i> Cyber security.....	21

Biological and medical sciences

<i>Bersimbaev R.I., Akparova A.Yu., Aripova A.A., Kausbekova A.Zh.</i> Role of microRNA and polymorphisms of FOXP3 and ADRB2 genes in pathogenesis of pulmonary diseases.....	25
<i>Atikenova G.T., Yesbenbetova Zh.Kh., Abikenova Sh.K., Mukanov D.B.</i> Analysis of the effectiveness of the developed methodology for setting the type and the volume of guarantees to workers for working conditions.....	32
<i>Demchenko G.A., Akhmetbayeva N.A.</i> Adrenergic innervation of lymphatic nodes from various body regions in young and mature animals.....	40
<i>Myrzakhanova M.N., Myrzakhanov N.</i> Factors that provide movement of lymphatics of rats on lymphatic vasculars.....	45

Social sciences

<i>Ayupova Z.K., Kussainov D.U., Winston Nagan.</i> To the question of pre-trial adjusting of the conflicts in the modern legal system of the republic of Kazakhstan.....	49
<i>Abdugalina S.E., Baidalina M.Y., Iskakova Z.Zh.</i> The introduction of innovative technologies in the educational process of higher education.....	57
<i>Galyjeva A.Kh., Sadu Zh.N., Kulubekov M.T., Kazbekova L.A.</i> Education and science as factors of innovative economics development	62
<i>Dzhumabekova A.T., Alina G.B.</i> The role of monetary policy of the national bank of RK in the economic development of the state.....	68
<i>Erdesheva Zh.I., Sarsenova A.B., Tazhigaliева M.Zh.</i> Resolution of housing disputes in the civil process.....	72
<i>Eskaliyeva A.Zh., Adietova E.M., Gabdulin N.I.</i> Formation of human capital in the social sphere in the conditions of innovative economy.....	76
<i>Zhakisheva K.M., Zhumanova D.T.</i> Theoretical and practical aspects of monitoring the financial condition of agrarian sector enterprises.....	81
<i>Igibaeva Z.K., Beysenova L.Z.</i> Assessment of the effect of internal governmental audit on the use of governmental resources in the republic of Kazakhstan.....	88
<i>Karipbaev B.I.</i> Category of "contingency" as a factor in the legitimization of tolerance and pluralism	92
<i>Moldakenova E.K., Auezova K.T., Amrenova G.K.</i> Modernization of the organizational structure management of enterprises of agro-industrial complex.....	98
<i>Mukasheva G.M., Aymurzina B.T.</i> Comparative analysis of market conditions of grain economy of RK and Mongolia.....	102
<i>Nesipbekov Ye.N., Appakova G.N.</i> Investment portfolio set-up in terms of JSC NC "Kazakhstan temir zholy".....	106
<i>Omarkhanova Zh.M., Tleuzhanova D.A., Amangeldijeva Zh.A., Baymagambetova Z.A.</i> Main directions for improving agrofranchising in the Akmolin region.....	111
<i>Panzabekova A.Zh.</i> Interdependence of tourism diversification and regional development features of Kazakhstan.....	114
<i>Sarsenbayeva K.A., Utegenova Zh.S.</i> Educational process and innovative management in modern pedagogy in higher school.....	121
<i>Seisenbina A.A.</i> Management of innovative development of food industry enterprises in RK.....	125
<i>Tatibekov B.L.</i> Development and formalization strategy of labor market in Kazakhstan under the conditions of digitalization.....	129
<i>Shugaipova Zh.</i> Market mechanisms of development of the mineral resource complex of Kazakhstan at the present stage..	137
<i>Bikenova A.S., Madisheva A.M., Nurgabylov M.N., Karabayeva R.K.</i> Total management in the sphere of tourist services.....	144
<i>Dauzova A.M., Dyrka S.</i> The issue of methodological aspects of assessment of land resources.....	149
<i>Kussainova A.A., Kozlowski Waldemar, Gerashchenko I.P.</i> Development of innovative insurance products of the financial market.....	155
<i>Uspambaeva M.K., Rakayeva A.N., Amrenova G.K.</i> State audit in the system of economic management.....	161
<i>Utepkalieva K.M., Sabirova R.K., Kabdulova A.S.</i> Development of small and medium entrepreneurship in agrarian sphere of Kazakhstan.....	169
<i>Shaukerova Z.M., Abdykerova G.Zh., Kasymova A.G.</i> Current problems of the audit of consolidated financial reporting.....	175
<i>Omarova A., Malgaraeva Zh., Murzaliyeva A.</i> Ensuring food security in the context of the development of integration processes.....	179
<i>Taspenova G.A., Karipova A., Alisheva D.E.</i> Analysis of factors affecting the economic strategy of diversification.....	188

**Publication Ethics and Publication Malpractice
in the journals of the National Academy of Sciences of the Republic of Kazakhstan**

For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

Submission of an article to the National Academy of Sciences of the Republic of Kazakhstan implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see <http://www.elsevier.com/postingpolicy>), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. In particular, translations into English of papers already published in another language are not accepted.

No other forms of scientific misconduct are allowed, such as plagiarism, falsification, fraudulent data, incorrect interpretation of other works, incorrect citations, etc. The National Academy of Sciences of the Republic of Kazakhstan follows the Code of Conduct of the Committee on Publication Ethics (COPE), and follows the COPE Flowcharts for Resolving Cases of Suspected Misconduct (http://publicationethics.org/files/u2/New_Code.pdf). To verify originality, your article may be checked by the originality detection service Cross Check <http://www.elsevier.com/editors/plagdetect>.

The authors are obliged to participate in peer review process and be ready to provide corrections, clarifications, retractions and apologies when needed. All authors of a paper should have significantly contributed to the research.

The reviewers should provide objective judgments and should point out relevant published works which are not yet cited. Reviewed articles should be treated confidentially. The reviewers will be chosen in such a way that there is no conflict of interests with respect to the research, the authors and/or the research funders.

The editors have complete responsibility and authority to reject or accept a paper, and they will only accept a paper when reasonably certain. They will preserve anonymity of reviewers and promote publication of corrections, clarifications, retractions and apologies when needed. The acceptance of a paper automatically implies the copyright transfer to the National Academy of sciences of the Republic of Kazakhstan.

The Editorial Board of the National Academy of sciences of the Republic of Kazakhstan will monitor and safeguard publishing ethics.

Правила оформления статьи для публикации в журнале смотреть на сайте:

www.nauka-nanrk.kz

ISSN 2518-1483 (Online), ISSN 2224-5227 (Print)

<http://www.reports-science.kz/index.php/ru/>

Редакторы *M. С. Ахметова, Т.А. Апендиев, Д.С. Аленов*
Верстка на компьютере *А.М. Кульгинбаевой*

Подписано в печать 13.12.2018.
Формат 60x881/8. Бумага офсетная. Печать – ризограф.
12,5 п.л. Тираж 500. Заказ 6.