

KAZAKHSTAN DAIRY MARKET: GUIDELINES FOR OPTIMIZATION

ҚАЗАҚСТАНДЫҚ СҮТ ӨНІМДЕРІ НАРЫҒЫ: ОҢТАЙЛАНДЫРУҒА БАҒДАРЛАР

КАЗАХСТАНСКИЙ РЫНОК МОЛОЧНЫХ ПРОДУКТОВ: ОРИЕНТИРЫ НА ОПТИМИЗАЦИЮ

A.T. BAKTGEREYEVA *

C.E.Sc.

G.K. JOLDASBAYEVA

Dr.E.Sc., Professor

A.R. URKUMBAYEVA

C.E.Sc., Associate Professor

Almaty Technological University, Almyty, Kazakhstan

**corresponding author e-mail: alma.taganovna@mail.ru*

A.T. БАКТГЕРЕЕВА *

Э.Ф.К.

Г.К. ДЖОЛДАСБАЕВА

э.ф.д., профессор

А.Р. УРКУМБАЕВА

э.ф.к., доцент

Алматы технологиялық университеті, Алматы, Қазақстан

**автордың электрондық поштасы: alma.taganovna@mail.ru*

A.T. БАКТГЕРЕЕВА *

К.Э.Н.

Г.К. ДЖОЛДАСБАЕВА

д.э.н., профессор

А.Р. УРКУМБАЕВА

к.э.н., доцент

Алматинский технологический университет, Алматы, Казахстан

**электронная почта автора: alma.taganovna@mail.ru*

Annotation: Milk plays an important role in human life as obligatory and necessary food product, containing the most valuable and easily digestible proteins, fats, carbohydrates, and minerals. *The goal* is to show the current state of dairy industry in Kazakhstan, factors influencing its development. The economic parameters of production of milk and dairy products, dynamics of production volumes, and the number of cattle by type of management have been studied. *The methods* are based on the study of domestic and analytical reviews, scientific publications, and statistical information. *Results* – there is a shortage of raw materials for processing enterprises, their low quality, and a large number of small producers. The authors state that homemade milk from private farms does not meet technological standards, which, in turn, is the reason for poor-quality industrial processing of raw materials. Domestic producers satisfy the need only for liquid processed milk and cream (94.9%). *Conclusions* – indicators that have restraining effect on development of dairy industry in the republic are considered, the need for technological re-equipment, formation of cluster structures, and state support for Kazakh producers is pointed out. Compliance with raw milk quality standards is only possible when using the latest methods for obtaining and primary processing of raw milk. To achieve an effect, subsidies for technical equipment are required, especially for small-scale farms (milking and refrigeration machines, disinfectants, express control analyzers, etc.). Forecasts for consumption of dairy products assume the ability to determine in the future the volumes and structure of market demand for this type of product. The fundamental factors are the level of income, trends in changes in retail prices, degree of market saturation, national and historical traditions.

Introduction

To date, there are many studies in the field of dairy industry development, the authors found it necessary to study this topic more deeply and the purpose of this work was to review the development of milk and dairy products production, study the dynamics of the development of processed dairy products and analyze the feed base. It is shown that with the development of production, it is necessary to ensure not only an increase in the volume of raw milk production, but also a change in quality indicators, that is, the environmental friendliness of the product produced.

Almost all types of dairy products are produced in the republic, including milk, cheese, all types of cheeses, dairy products with and without added sugar, yogurt and kefir. In general, the production of processed milk and dairy products is characterized by positive dynamics. However, there are a number of problems in the further development of the dairy industry. These include: inconsistent capital inflows, insufficient own funds of agricultural companies and farmers, wear and tear of agricultural machinery and non-systemic measures to support personal subsidiary farms.

The following tasks have been set: identification of a number of key problems, the lack of large farms producing high-quality raw materials in the right volumes, high dependence on imports due to underdevelopment of deep processing and shortage of raw materials. Working hypotheses of the study: according to the results of a study of milk production in the republic, there are a number of problems in the dairy industry that indicate the backwardness of the industry as a whole.

Ensuring the country's food security necessitates the sustainable development of milk production as a source of raw materials for the production of dairy products, therefore, it is concluded that it is necessary to increase the use of production capacities, increase livestock complexes, the need to develop a cooperative movement in rural areas, the construction of new dairy farms and industrial dairies, which will increase the production of commercial milk.

Literature Review

The milk and dairy products market is an important sector of the food market.

According to scientists, milk is a staple food consumed by people of all ages worldwide, and an important nutrient, so quality of life depends on the consumption of milk and milk products (Nurahova A.A., Nurpeisova A.A., Bajzhaksynov G.K.) [1]. In the Republic,

the dairy industry plays an important role in food security and economic contribution in terms of agro-industry, as these industries are major consumers of agricultural products (Nurpeisova M.M.) [2].

Providing the population with milk is an urgent issue of food security. Therefore, at the state level, the improvement of dairy farming is predetermined by the priority direction of agro-industrial policy, which is aimed at financial and economic assistance from the government. The creation of dairy farming, as well as all agricultural production in the country, is based on the support of various strategic state development programs. The most significant of them are the Strategy «Kazakhstan – 2050», where it is expected to increase the share of agricultural products in the gross domestic product of the republic by 5 times by 2050 (Strategy «Kazakhstan – 2050») [3].

The In Kazakhstan, dairy is part of the food industry and its importance to the economy cannot be overemphasized. Dairy farmers and dairy farmers are one of the most important subsystems in the country's complex agricultural sector. The dairy industry uses complex industrial purchasing and handling procedures to produce raw milk, traditional milk, cream, natural cheeses, processed cheeses, feta cheese, skim milk and more. Dairy is a daily food. From the digestive point of view, milk is the most nutritious food, providing almost complete nutritional balance (Kineev M.A.) [4].

After the transition period in the 1990s, the productivity of dairy cattle in the country decreased, and the number of cows decreased accordingly. As a result, large-scale production was lost, but the trend towards intensification persisted worldwide. As a result, 70% of the total dairy cow population today is concentrated on privately subsidized farms, whose productivity is 38% lower than that of agricultural corporations. It is known that the profitability threshold in dairy farming is 3.5 tons of milk per cow per year.

Milk production is developing at a fairly high pace, however, due to the predominance of small subsistence farms of the population, its productivity and the quality of raw materials are low, which causes the import of highly materialintensive transportable dairy products. Since most of the livestock is concentrated in family farms, it is difficult for the state to influence the development and rational placement of livestock. Therefore, it is advisable to form a large commodity production, where state support can be directed, taking

into account the rational placement of cattle and their specialization.

The shortage of milk and dairy products in Kazakhstan and the openness of our market have allowed foreign products to enter the market with their own products. This forced milk processing enterprises to master the production of new types of products and consider the possibility of using new types of packaging. Today, up to 140 dairy products are being produced and new brands have been created. However, this requires modernization and development of legal and technical standards for new dairy products, compliance with international standards and promotion of dairy products to improve milk quality (Karaeva N., Guseva G.Ya., Sadykov A.N.) [5].

Materials and methods

The theoretical background of the research was the achievements of economic science formulated in the works of researchers on the formation of dairy farming. In the process of studying, an integrated method was used, emphasis was placed on all components of the object of study, on the discovery of connections between them, which allows us to argue ways and techniques of a comprehensive solution to the problem under study. The information base was provided by the data of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan.

The study used an economic and statistical method for monitoring and evaluating the current state of production, resources of processing enterprises and their production capacities; an abstract and logical way to identify industry and regional specifics in the forms and components of relationships between producers and processors of agricultural products, affecting the effectiveness of economic interactions between agricultural producers and processing enterprises.

Solving the problem of improving economic interaction between agricultural, processing and service enterprises will have a significant impact on the efficiency of milk and dairy production, this will facilitate the movement of food products along a given technological chain from raw materials to the finished product.

Results

After the agrarian reforms carried out in the country and comprehensive support for animal husbandry, the number of cattle on farms is steadily growing, so, for the period from 2020 to January 1, 2024, the number of dairy cows increased by 38.5%. As a result, milk production increases. The average milk

yield over the past few years has averaged 2380 kg for all categories of farms, 4933 kg for agricultural enterprises, 1 850 kg for peasant (farm) farms and 2 442 kg for family farms. The creation of a herd of young breeding cows has led to a significant increase in the average milk yield per cow. In peasant farms, it increased by 21 kg, from 1 829 to 1 850 kg, and in private subsidiary farms of the population - by 23 kg, from 2 419 to 2 442 kg.

The creation of a herd of young breeding cows has led to a significant increase in the average milk yield per cow. In peasant farms, it increased by 20 kg, from 1 829 to 1 849 kg, and in private subsidiary farms of the population - by 40 kg, from 2 419 to 2 459 kg (Bureau of National Statistics of the Agency...) [6].

Milk production in the country is growing by only 2-3% annually and by the end of 2023, a total of 6.5 million tons of milk were produced, as of January 1, 2024, 533 thousand tons were produced. The figures are impressive, but if you look at the structure of the main milk producers, it becomes clear that 68.8% of milk produced is homemade milk, i.e. received from private households of the population. In the republic, only 9.2% of milk was produced at agricultural enterprises.

The number of cattle has changed from 2020 to January 1, 2024. As a result, the number of dairy cows on all farms increased by 115.8% during this period. Agricultural enterprises accounted for 125.6%, smallholder farms accounted for 138.5%, and the population on sub-private land did not change during this period.

According to 2023 data, the number of cattle in the country is on public and private lands - 50.7% of all livestock, on farmers' farms - 42.2% and on agricultural facilities - 7.1%.

As of January 1, 2024, the number of cattle in various types of agricultural production, including dairy cattle, ranged from 8.6 million to 4.4 million, accounting for 51.6% of the cattle population. In recent years, the number of farmers' cattle has increased by 1 million heads, from 2.6 million to 3.6 million, of which the number of dairy cattle has increased by 555.8 thousand heads, from 1.4 million to 2 million (table 1) (Bureau of National Statistics of the Agency...) [6].

According to statistics, the dairy industry of the Republic of Kazakhstan has an inefficient production structure, with almost 90% of production coming from private, subsidized farms. Currently, the main increase in milk supplies is provided by private subsidiary farms, which are small, isolated and do not have the potential for growth and production of high-quality raw mate-

rials. The distribution of livestock farms does not allow for an expanded breeding farm and does not allow processing enterprises to fully unleash

their potential in terms of raw materials and breeding (Tireuov K.M., Kerimova U.K., Turekulov S.A.) [7].

Table 1 – Dynamics of the number of cattle by category of farms in the Republic of Kazakhstan, thousand heads

Indicator	2020	2021	2022	2023	January 1 2024	January 1 2024 by 2020, %
All categories of farms						
Cattle, total	7 436.4	7 850.0	8 192.4	8 643.7	8 612.6	115.8
Including cows	3 769.7	4 008.3	4 235.6	4 197.2	4 447.7	118.0
The share of cows in the herd structure, %	50.7	51.1	51.7	52.3	51.6	
Average milk yield per 1 dairy cow, kg	2 360	2 380	2 403	2 409	117	4.9
Agricultural enterprises						
Cattle, total	717.9	753.8	771.7	816.3	860.1	119.8
Including cows	280.7	293.6	300.4	317.2	352.5	125.6
The share of cows in the herd structure, %	39.1	38.9	38.9	39.3	41.0	
Average milk yield per 1 dairy cow, kg	4 864	4 906	4 693	5 543	503	10.3
The share of cows in agricultural enterprises, %	7.4	7.3	7.1	7.1	7.9	
Peasant (farm) farms						
Cattle, total	2 624.2	2 859.3	3 132.5	440.7	3 637.9	138.6
Including cows	1 444.5	1 598.4	1 757.2	834.6	2 000.3	138.5
The share of cows in the herd structure, %	55.0	55.9	56.1	55.8	55.0	
Average milk yield per 1 dairy cow, kg	1 835	1 844	1 892	1 849	77	4,2
The proportion of cows in K(F)X, %	38.3	39.9	41.5	42.2	45.0	
Households of the population						
Cattle, total	4 094.2	4 236.9	4 288.2	4 386.7	4114.6	100.5
Including cows	2 044.6	2 116.2	2 178.1	2 045.4	2094.8	102.4
The share of cows in the herd structure, %	49.9	49.9	50.8	51.9	50.9	
Average milk yield per 1 dairy cow, kg	2 424	2 443	2 466	2 459	108	4.4
The proportion of cows in the population, %	54.2	52.8	51.4	50.7	47.1	
Note: compiled on the basis of statistical data from the (Bureau of National Statistics of the Agency....) [6]						

As of January 1, 2024, 47.8% of cattle were kept in private subsidiary farms of the population, 42.2% - in farms or agricultural enterprises and 3.8% - in agricultural enterprises. Most farms have an average of 10 mongrel cows, which are kept on public pastures in summer and in cowsheds in winter. The feed for dairy cows consists mainly of hay and grain waste. Milk produced on privately subsidized pastures is sold exclusively on the local market in the nearest urban settlement and consumed directly by the family. The development of dairy farming in the country is

uneven for several reasons, including due to differences in the natural and economic potential of settlements and their remoteness from large markets.

Industrial processing of such raw materials is problematic, since homemade milk from individual farmers cannot be classified as fully compliant with technical standards. And producers are forced to purchase imported dry raw materials and process them to produce dairy products. The republic is provided with dairy products by only 82.5% (excluding raw milk), 17.5% is imported from abroad.

Dairy processing enterprises almost completely satisfy the demand for processed milk and cream by 94.9%, the missing 5.1% is provided by imports. Milk production is increasing every year, but deep processing is lagging behind.

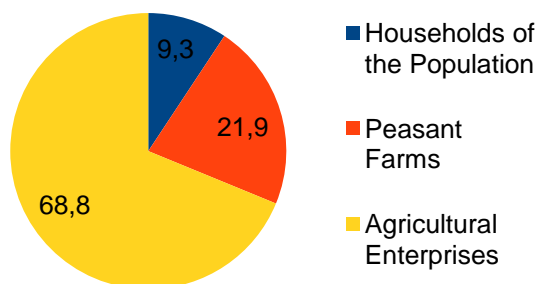
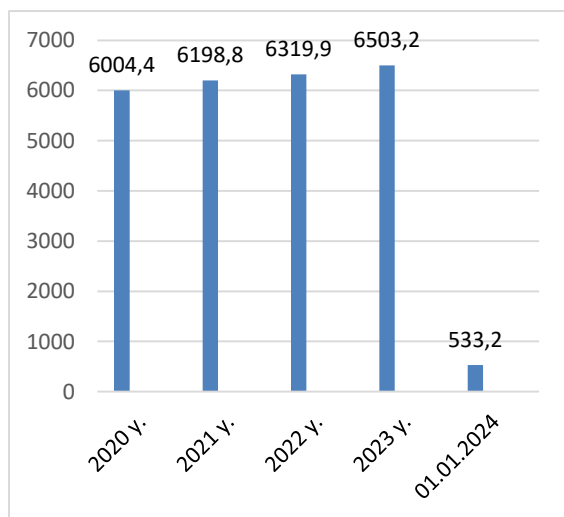
The main sources of the dairy market of the republic are families and farms that keep dairy cows and produce commercial milk.

Thus, milk production in 2023 amounted to 4.5 million tons, which is 3.7% more than in 2020. Peasant (farm) farms - from 2020 to 2023 from 1.2 million tons to 1.4 million tons, or by 16%, in recent years agricultural enterprises have also intensified, so during this period milk production in this category increased by - 30% (table 2, figure 1) (Bureau of National Statistics of the Agency....) [6].

Table 2 – Dynamics of milk production in agricultural production of various classifications of the Republic of Kazakhstan, thousands of tons

Indicator	2020	2021	2022	2023	January 2024
Farms of all categories	6 004.4	6 198.8	6 319.9	6 503.2	533.3
Agricultural enterprises	463.2	508.4	522.7	602.4	98.3
Share in total milk production, %	7.7	8.2	8.3	9.2	18.4
Peasant (farm) farms	1 230.3	1 291.4	1 366.6	1 427.6	105.2
Share in total milk production, %	20.5	20.8	21.6	21.9	19.7
Households of the population	4 310.9	4 399.0	4 430.6	4 473.1	329.8
Share in total milk production, %	71.8	71.0	70.1	68.8	61.8

Note: compiled on the basis of statistical data from the (Bureau of National Statistics of the Agency....) [6]



Note: compiled on the basis of statistical data from the (Bureau of National Statistics of the Agency....) [6]

Figure 1 - Milk production, thousand tons

When organizing milk production in small-scale forms of management, it is necessary to note the specificity of the industry: small-scale manufacturing, weak feed base, low rate of mechanization of technological processes, high labor costs of milk production, difficulties in selling products as a result of monopolism of milk processing enterprises, low level of state protection, low profitability or unprofitability of production, social orientation (Kulikov I., Minakov I.) [8].

The creation of dairy farming in small-scale forms of management favours rural resi-

dents, contributing to their employment by engaging in economic activities, increasing the number of dairy farms, livestock and productivity of cows will ensure the receipt of a significant amount of milk, which allows, with appropriate organization, to organize the production environmentally friendly products. One of the key aspects of the effective formation of livestock farms is the improvement of the feed base. This is due to the fact that a significant part of labor costs falls on feed, and the profitability of enterprises depends on this parameter

(Akimbekova G.U, Bajmuhanov A.B, Kaskabaev U.R.) [9].

For full-fledged fattening of livestock, it is required to use a balanced diet in compliance with nutritional standards. But domestic farmers often use cheap coarse feed with low nutritional value. As a result, it is impossible to obtain high gains/yields, and the low profitability of the farm again prevents the purchase of feed that can increase the productivity of animals.

In the country, the main difficulty is when feeding dairy cows is the lack of protein in the diet. In most farms, corn silage and hay are the main feeds. Low-quality silage with a bad smell or other undesirable qualities that arise due to poor fermentation and repel animals should not be allowed in the diet. The use of a properly formulated feed mixture by animals leads to an increase in milk yields. For optimal milk production, it is necessary to have a protein content in the diet at the level of 15% (crude protein), which means that an additional source of protein is needed, which will balance the diet (Features of dairy farming in Kazakhstan) [10].

Successful cattle breeding requires a high level of zootechnical work. The most important requirements are imposed on the organization of full-fledged feeding, which requires the creation of a solid food base (Udin E., Udina T., Porfirov P.) [11].

For the period from 2019 to 2023, the area under fodder decreased by 8.4% and amounted to 3003.5 thousand hectares in 2023. Despite the measures taken, the provision of coarse feed is 80%, juicy feed is 40%, concentrated feed is 50%. It is well known that for the stable development of animal husbandry, in addition to full security, there must also be an insurance stock of feed (Callaghan T., Hennessy D., McAuliffe S. et al.) [12].

Lack of high quality raw materials is a major factor in reducing manufacturing efficiency. For some companies with a very tight supply chain, their products only need quality milk. Professional dairy farmers are committed to quality and safety and spend a lot of money and time to get the milk they buy. They help provide cleaning supplies by regularly monitoring cleanliness in the field and in the warehouse. Companies invest in grants to set up new milk collection facilities and work with companies to improve milk quality. When we buy milk, we use a system that adds a price based on quality. However, farmers are generally willing to sell milk at the lowest possible price (Pyzhikova N., Ovsyanko L., Kovalenko E....) [13].

There are more than 15 dairy enterprises in the Almaty region, with different indicators

of processed products. The following companies operate in the consumer market: «Food Master» JSC, «RaimbekAgro» LLP, «Adal» JSC and others. The largest dairy product on the market is Foodmaster, with a share of over 30%. At the same time, «Food Master» Joint Stock Company has ambitions for the supply of raw milk. Its supply point network includes more than 170 agricultural enterprises in the Almaty and Turkestan regions, in addition to raw milk producers. Agribusiness in the neighboring Kyrgyz Republic. The industrial processing capacity reaches 45 thousand tons. The company processes approximately 38 thousand tons of milk annually.

“Raimbek Agro” LLP has the second largest milk collection and processing volume in the region, with an annual production of 17 thousand tons. Adial's share does not exceed 5 thousand tons of milk. Other agricultural enterprises process only a small amount of raw materials, and their status in the total agricultural output value is low.

However, these farm enterprises also face the following problems: First, due to the lack of milk processing technology, there is a serious shortage of raw materials and low quality. They deal with many producers and the milk is transported from hundreds of kilometers away.

Therefore, it is worth noting that our country has yet to effectively realize the potential of individual households for the production of organic milk and dairy products. These farms contain a large number of dairy cows, from which the rural population receives enough milk, in most cases inaccessible to the dairy industry. Products produced in the country are mainly for domestic consumption. Through the establishment of purchasing and marketing cooperatives and the inclusion of small enterprises in the field of environmentally friendly dairy products and dairy products, the sales market for environmentally friendly agricultural products will be significantly increased.

However, despite this, most dairy products produced in this country are not classified as environmentally friendly. At the same time, obtaining dairy certificates can bring significant benefits to farmers and farm families. In the absence of positive indicators in milk and dairy products, manufacturers have little incentive to improve dairy quality.

Most of the domestic agricultural products entering the dairy market are sold to consumers without setting environmental quality standards. Many of the suppliers in trouble have not done enough to ensure that their dairy products meet organic classification. The fundamental prerequisites for this pattern are

the shortcomings of market policy, contempt for significant regulatory frameworks for milk suppliers and the milk processing industry, consideration of incentives for producers, increased consumer demand and trust in sellers of environmentally friendly products.

Implementation of established practices in modern dairy farms for milk production and processing in the country's dairy farms creates huge opportunities for the production of environmentally friendly milk and dairy products. Proper marketing functions in the dairy and feed complex and deepening of new, high-performance and advanced technologies in dairy farms can serve as system building elements that contribute to an environment-friendly milk and dairy market. Use of a fully approved and developed road network, which is necessary to organize the safe delivery of milk to market.

Organic milk encourages producers its income is increased by the wholesale sale of goods, and by the provision of modern machinery and improved equipment necessary for its manufacturing needs. The more profitable than traditional dairies and more environmentally friendly farming. If environmentally friendly products are good, consumers will demand them. Such products are competing in the dairy market, where consumers benefit more as demand rises. At the same time it is important that the purchasing power of the people is stable and high.

The growing demand for healthy nutrition will prove the importance and necessity of improving the milk and organic dairy products market. Increasing the purchasing power of some groups to access high-quality, delicious produce, milk production, and environmentally friendly dairy products that are free of hor-

mones, nitrates, and pesticides can help protect, maintain, and restore health.

It is noteworthy that the republic is still not working effectively enough to increase the capacity of households to produce environmentally friendly milk and dairy products. The family has a large herd of dairy cows from which the villagers get a lot of milk, but they have not entered the dairy industry. Milk produced by households is mainly for domestic consumption. As mentioned earlier, domestic milk production increased for the past three years. It also provides farmers with a unique infrastructure to increase milk production using environmentally friendly dairy products. Buying organizations, even small businesses, can increase the availability of organic milk and organic dairy products.

Promoting milk to the dairy market by households and farmers will increase market saturation of eco-friendly agricultural products. One of the tasks that needs to be solved is to coordinate the sale of these products and bring them to customers as soon as possible. This problem can be solved if purchasing and marketing cooperatives have their own marketing service. This service should be used to identify the most profitable sales channels, which will facilitate the sale of dairy products at more favorable prices and guarantee timely sales and significant income (Palii A., Nanka O., Naumenko O. et al.) [14].

As of January 1, 2024, 47.6 thousand tons of milk, processed cream, butter – 2.1 thousand tons, cheeses – 4.1 thousand tons, condensed milk – 0.4 thousand tons were produced. The 2020-2023 period shows a decrease of 3% in processed milk and cream during this period, raw milk – by 23.2% And a smaller increase of 17.8% and 21.7% in butter production (table 3).

Table 3 – Types of dairy products produced in the republic for 2020 – January 1, 2024, thousand tons

Types of products	2020	2021	2022	2023	January 1, 2024	2023 by 2020, %
Processed milk, cream	616.9	611.7	582.1	598.7	47.6	97.0
Butter	26.4	27.2	26.3	31.1	2.1	117.8
Cheeses	36.0	39.7	39.7	43.8	4.1	121.7
Condensed milk	9.5	9.8	8.8	7.3	0.4	76.8

Note: compiled on the basis of statistical data from the (Bureau of National Statistics of the Agency....) [6]

They introduced milk from local producers and opened up our markets with imports that our customers were previously unfamiliar with. This fact should encourage the Kazakh dairy industry to pay attention to new packaging materials and to develop new technologies more. At the same time, leading technical companies have developed and labeled nearly 140 dairy brands, requiring regulatory and

technical standards for new dairy products that require new dairy products to meet international standards on sustainability, dairy products promote an internal waste - producer system.

There are about 150 dairy plants in the Republic with an annual capacity of 2 million tons. The limited supply of raw milk is associated with informal raw milk sales channels (cities, house-

holds, private farms and small enterprises), which account for only a fraction of the available raw milk supply. Consequently, the availability of raw materials is limited and value added is lost throughout the year.

In general, the level of self-sufficiency in dairy products (with the exception of raw milk) in our country is 82.5%, and the remaining 17.5% are imported. Only liquid processed milk and cream (94.9%) are almost completely provided by domestic producers, while the remaining 5.1% are imported.

Butter production in the Republic of Kazakhstan covers 79.3% of the population's needs. For products of deep processing: cheeses and cottage cheese, there is a pronounced import dependence – 44.4%. The dependence on imports is even more pronounced for condensed milk: our country covers only 37.9% of the demand, the remaining 62.1% is accounted for by the import. The availability of yogurt, kefir, milk and fermented cream is 84.4%.

Thus, the fundamental directions of the development of the processing industry should be: scientific and technical re-equipment of the industry; implementation of cluster systems for the production, processing and sale of agro-industrial products; increasing the output of final products of the agro-industrial complex in economic terms per unit of agricultural raw materials; integration in the form of various forms of management; state support for domestic suppliers; kazakhstani producers need to pay attention to the properties of raw materials for the production of dairy products (Rasulova, A. Bolatkyzy, S., Elshibaev, R. et al.) [15].

Discussions

It should be emphasized that the Government of the Republic of Kazakhstan has recently adopted a number of resolutions to strengthen the work of domestic agricultural enterprises and restrict imports of products similar to those produced by the country's producers by increasing investments, in particular foreign direct investment in the food and agricultural sectors. Production, activation of secondary bank lending to the industry, which is normalizing, which makes it possible to restore the efficiency of some enterprises, reduce barter operations, improve the economic situation of enterprises, increase the competitiveness of domestic food products, compensate for imports and increase the share of domestic production.

The main obstacles to the development of the dairy industry are the following:

- * the purchase of raw materials requires working capital, which the company does not have;

- * very low availability of basic material and technical means;

- * the infrastructure is undeveloped;

- * the absence of factories equipped with modern equipment located in the centers of production of raw materials;

- * inappropriate trade conditions and insufficiently effective measures to support local agricultural producers;

- * breaking ties between producers and processors of agricultural products;

- * lack of qualified specialists working in modern market conditions.

Conclusion

1. Milk production in the republic is developing at a fairly high pace, however, a large number of small farms show a low level of marketability and quality of raw materials, which forces them to import material-intensive dairy products.

2. Milk production in Kazakhstan is growing annually, but the dairy industry is facing a number of serious problems, including underutilization of production capacities, the absence of large farms producing the necessary volumes of high-quality raw materials, high import dependence due to underdevelopment of deep processing and shortage of raw materials, as well as high purchase prices for raw milk.

3. In order to provide Kazakhstan with high-quality domestic dairy products, it is necessary to improve the milk collection system, expand livestock complexes and improve quality control of dairy raw materials at all stages of production.

4. In the future, milk production and processing in our country will increase due to the development of cooperative production in rural areas, as well as cooperation with large international companies. For this purpose, it is planned to create new dairy farms and industrial dairies, which will increase the production of commercial milk.

Contribution of the authors:

Baktgereyeva Alma Taganovna: conceptualization, development of methodology, writing, mentoring of research and all its stages, confirmation of research results; Joldasbayeva Gulnar Karimovna: interpretation of research results, editing and revision of the publication; Urkumbayeva Assiya Rahimzhanovna: data collection and analysis.

Conflict of interest: Conflict of interests: on behalf of all authors, the corresponding author declares that there is no conflict of interests.

References

[1] Нурахова, А.А. Қазақстанның Алматы облысындағы сүт және сүт өнімдері нарығы /А.А. Нурахова, А.А.Нурпеисова, Г.К. Байжак-

сынов //Проблемы агрорынка. – 2022. - №2. – Б.169-179.

[2] Нурпеисова, М.М. Анализ рынка молочной продукции в Республике Казахстан / М.М. Нурпеисова // Исследования, результаты. – 2019. - №3(71). – С. 325-329.

[3] Стратегия «Казахстан-2050» [Электронный ресурс]. – URL: https://www.akorda.kz/ru/official_documents/strategies_and_programs (дата обращения: 10.04.2024).

[4] Кинеев, М.А. Продуктивность молочного скота Казахстана. Казахский НИИ животноводства и кормопроизводства [Электронный ресурс]. – 2019. – URL: <https://www.zhivotnovodstvo.kz/produktivnostmolochnogorskota-kazahstana> (дата обращения: 10.04.2024)

[5] Карабаева, Н. Производство молока в Республике Казахстан: состояние и проблемы / Н.Карабаева, Г.Я. Гусева, А.Н. Садыков // Проблемы агрорынка. – 2019. - № 4. - С.155-162.

[6] Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан, Статистика сельского, лесного и охотничьего хозяйства, Основные показатели развития животноводства [Электронный ресурс]. – 2024. – URL: <https://www.stat.gov.kz/ru/> (дата обращения: 10.04.2024).

[7] Тиреуов, К.М. Эффективность функционирования предприятий аграрного сектора Республики Казахстан / К.М. Тиреуов, У.К.Керимова, С.А. Тюрекулов //Проблемы агрорынка. – 2020. - № 3. – С.116-122.

[8] Kulikov, I. A Socio-economic Study of the Food Sector: The Supply Side / I.Kulikov, I.Minakov // European Research Studies Journal. – 2018.- T21.- 4. - P.174-185.

[9] Акимбекова, Г.У. Молочное скотоводство в модельных фермах Алматинской области Республики Казахстан / Г.У.Акимбекова, А.Б. Баймуханов, У.Р. Каскабаев // Проблемы агрорынка.– 2019.- № 4.– С.11-19.

[10] Особенности молочного животноводства Казахстана [Электронный ресурс]. – 2023.- URL: <https://www.agbz.kz/osobennosti-molochnogo-zhivotnovodstva-kazahstana/> (дата обращения: 10.04.2024).

[11] Udin, E. The prospects of development of dairy cattle breeding in Russia / E. Udin, T. Udina, P. Porfirov // Economics of Agriculture of Russia. Section: Agrofood market. - 2016. - Issue № 12. – P.59-64.

[12] Callaghan, T. Effect of pasture versus indoor feeding systems on raw milk composition and quality over an entire lactation / T. Callaghan, D. Hennessy, S.McAuliffe, K. Kilcawley, M.Donovan, P.Dillon, C. Stanton //Journal of Dairy Science. -2016. - 99(12).-P. 9424–9440. <https://doi.org/10.3168/jds.2016-10985>.

[13] Pyzhikova, N. The development of quality milk and dairy products market with the consideration of state support / N. Pyzhikova, L. Ovsyanko, E. Kovalenko, E.Vlasova //Journal of Applied Economic Sciences. – 2018. - 13(3). - P.813-822.

nal of Applied Economic Sciences. – 2018. - 13(3). - P.813-822.

[14] Palii, A. Preconditions for eco-friendly milk production on the modern dairy complexes / A. Palii, O. Nanka, O. Naumenko, V. Prudnikov, A. Paley // Ukrainian Journal of Ecology. – 2019. - 9 (1). – P. 56-62.

[15] Rasulova, A. Bolatkyzy, S., Elshibaev, R., Raiymbekova, A. Comparative Analysis of the Competitiveness of Food Markets: The Case of Kazakhstan, Russia, France and Belarus / A. Rasulova, S.Bolatkyzy, R. Elshibaev, A. Raiymbekova // European research studies journal.- 2018.- N21(4).- P.343-355. <https://doi.org/10.35808/ersj/1125>

References

[1] Nurahova, A.A., Nurpeisova, A.A. & Bajzhaksynov, G.K. (2022). Qazaqstannyñ Almaty oblysyndağy sūt jäne sūt önımderi naryğy [Dairy and milk production in Almaty region of Kazakhstan]. *Problemy agrorynka - Problems of AgriMarket*, (2), 169-179 [in Kazakh].

[2] Nurpeisova, M.M. (2019). Analiz rynka molochnoj produkcii v Respublike Kazahstan [Analysis of the dairy market in the Republic of Kazakhstan]. *Issledovaniya, rezultaty - Research, results*, 3(71), 325-329 [in Russian].

[3] Strategiya «Kazahstan - 2050» [Strategy "Kazahstan-2050"]. Available at: http://www.akorda.kz/ru/official_documents/strategies_and_programs (date of access: 10.04.2024) [in Russian].

[4] Kineev, M.A. (2018). Produktivnost molochnogo skota Kazahstana [Productivity of dairy cattle in Kazakhstan]. *Kazahskij Nil zhivotnovodstva i kormoproizvodstva - Kazakh Research Institute of Animal Husbandry and Feed Production*. Available at: <http://zhivotnovodstvo.kz/produktivnostmolochnogo-skota-kazahstana> (date of access: 10.04.2024) [in Russian].

[5] Karabaeva, N., Guseva, G.Ya. & Sadykov, A.N. (2019). Proizvodstvo moloka v Respublike Kazahstan: sostoyanie i problemy [Milk production in the Republic of Kazakhstan: state and problems]. *Problemy agrorynka - Problems of AgriMarket*, (4), 155-162 [in Russian].

[6] Byuro nacionalnoj statistiki Agentstva po strategicheskemu planirovaniyu i reformam Respubliki Kazahstan. Statistika selskogo, lesnogo i ohotnichyego hozyajstva, Osnovnye pokazateli razvitiya zhivotnovodstva [Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, Statistics of agriculture, forestry and hunting, Key indicators of livestock development] (2024). Available at: <https://stat.gov.kz/ru/> (date of access: 10.04.2024) [in Russian].

[7] Tireuov, K.M., Kerimova, U.K. & Turekulov, S.A. (2020). Effektivnost funkcionirovaniya predpriyatij agrarnogo sektora Respubliki Kazahstan [Efficiency of functioning of agricultural sector enterprises of the Republic of Ka-

zakhstan]. *Problemy agrorynka - Problems of AgriMarket*, (3), 116-122 [in Russian].

[8] Kulikov, I.A. & Minakov, I. (2018). Socio-economic Study of the Food Sector: The Supply Side. *European Research Studies Journal*, 21(4), 174-185 [in English].

[9] Akimbekova, G.U., Bajmuhanov, A.B. & Kaskabaev, U.R. (2019). Molochnoe skotovodstvo v modelnyh fermah Alma-tinskoj oblasti Respubliki Kazakhstan [Dairy cattle breeding in model farms of Almaty region, Republic of Kazakhstan]. *Problemy agrorynka - Problems of AgriMarket*, (4), 11-19 [in Russian].

[10] Osobennosti molochnogo zhivotnovodstva Kazahstana [Features of dairy farming in Kazakhstan] (2023). Available at: <https://agbz.kz/osobennosti-molochnogo-zhivotnovodstva-kazahstana/> (date of access: 10.04.2024) [in Russian].

[11] Udin, E., Udina, T. & Porfirov, P. (2016). The prospects of development of dairy cattle breeding in Russia. *Economics of Agriculture of Russia*, 12, 59-64 [in English].

[12] Callaghan, T., Hennessy, D., McAuliffe, S., Kilcawley, K., Donovan, M., Dillon, P. & Stan-

ton, C. (2016). Effect of pasture versus indoor feeding systems on raw milk composition and quality over an entire lactation. *Journal of Dairy Science*, 99(12), 9424–9440. <https://doi.org/10.3168/jds.2016-10985> [in English].

[13] Pyzhikova, N., Ovsyanko, L., Kovalenko, E. & Vlasova, E. (2018). The development of quality milk and dairy products market with the consideration of state support. *Journal of Applied Economic Sciences*, 13(3), 813-822 [in English].

[14] Palii, A., Nanka, O., Naumenko, O. & Prudnikov, V. (2019). Preconditions for eco-friendly milk production on the modern dairy complexes. *Ukrainian Journal of Ecology*, 9(1), 56-62 [in English].

[15] Rasulova, A., Bolatkyzy, S., Elshibaev, R. & Raiymbekova, A. (2018). Comparative Analysis of the Competitiveness of Food Markets: The Case of Kazakhstan, Russia, France and Belarus. *EUROPEAN RESEARCH STUDIES JOURNAL*, 21(4), 343-355. DOI: 10.35808/ersj/1125 [in English].

Information about authors:

Baktgerreyeva Alma Taganovna – **The main author**; Candidate of Economic Sciences; Senior Lecturer of the Department of Economics and Management; Almaty Technological University; 050012 Tole bi str., 100, Almaty, Kazakhstan; e-mail: alma.taganovna@mail.ru; <https://orcid.org/0000-0002-7445-7797>.

Joldasbayeva Gulnar Karimovna; Doctor of Economic Sciences, Professor; Professor of the Department of Economics and Management; Almaty Technological University; 050012 Tole bi str., 100, Almaty, Kazakhstan; e-mail: gulnara_00@mail.ru; <https://orcid.org/0000-0002-5757-3083>

Urkumbayeva Assiya Rahimzhanovna; Candidate of Economic Sciences, Associate Professor; Associate Professor of the Department of Economics and Management; Almaty Technological University; 050012 Tole bi str., 100, Almaty, Kazakhstan; e-mail: u.assiya@mail.ru; <https://orcid.org/0000-0002-5153-6900>.

Авторлар туралы ақпарат:

Бақтгереева Алма Тағанқызы - **негізгі автор**; экономика ғылымдарының кандидаты; «Экономика және менеджмент» кафедрасының сениор-лекторы; Алматы технологиялық университеті; 050012 Төле би көш., 100, Алматы қ., Қазақстан; e-mail: alma.taganovna@mail.ru; <https://orcid.org/0000-0002-7445-7797>.

Джолдасбаева Гүлнар Кәрімқызы; экономика ғылымдарының докторы, профессор; «Экономика және менеджмент» кафедрасының профессоры; Алматы технологиялық университеті; 050012 Төле би көш., 100, Алматы қ., Қазақстан; e-mail: gulnara_00@mail.ru; <https://orcid.org/0000-0002-5757-3083>

Уркумбаева Әсия Рақымжанқызы; экономика ғылымдарының кандидаты, доцент; «Экономика және менеджмент» кафедрасының қауымдастырылған профессоры; Алматы технологиялық университеті; 050012 Төле би көш., 100, Алматы қ., Қазақстан; e-mail: u.assiya@mail.ru; <https://orcid.org/0000-0002-5153-6900>.

Информация об авторах:

Бактгереева Алма Тагановна – **основной автор**; кандидат экономических наук; сениор-лектор кафедры «Экономика и менеджмент»; Алматинский технологический университет; 050012 ул.Төле би, 100, г.Алматы, Казахстан; e-mail: alma.taganovna@mail.ru; <https://orcid.org/0000-0002-7445-7797>.

Джолдасбаева Гульнар Каримовна; доктор экономических наук, профессор; профессор кафедры «Экономика и менеджмент»; Алматинский технологический университет; 050012 ул.Төле би, 100, г.Алматы, Казахстан; e-mail: gulnara_00@mail.ru; <https://orcid.org/0000-0002-5757-3083>

Уркумбаева Асия Рахимжановна; кандидат экономических наук, доцент; ассоциированный профессор кафедры «Экономика и менеджмент»; Алматинский технологический университет; 050012 ул.Төле би, 100, г.Алматы, Казахстан; e-mail: u.assiya@mail.ru; <https://orcid.org/0000-0002-5153-6900>