

Current Status of Dairy Products in Republic of Kazakhstan

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Abstract

In Kazakhstan, there are conditions for the expansion of the domestic market of dairy products and output to export positions, but the pace and nature of development of the dairy industry is insufficiently intensive. The products of Kazakhstan's dairy industry must become competitive, first and foremost, in the domestic market, to have quality and price comparable to world analogues. The modern Kazakhstan market for dairy products is characterized by the lack of a clear economic mechanism of interaction of economic entities. Violation of inter-link links, significant financial difficulties and low level of material and technical support of most rural producers contribute to the reduction of competitiveness of the product. The subject of the study is a combination of theoretical, methodological and practical problems of the development of the dairy market in the Republic of Kazakhstan. The object of research is the market of dairy products, the dairy industry of the agro-industrial complex of the Republic of Kazakhstan.

Keywords

Volume of Production, Dairy Products, Economy, State Regulation, Market Conditions

1. Introduction

The purpose and objectives of the study. The purpose is the theoretical and methodological justification and development of mechanisms for the development of the market of dairy products, as well as a form of communication between market participants in the context of globalization of the world economy.

The set goal determined the tasks that caused the content and structure of the work:

- To systematize the world experience of market formation of dairy products;

- To assess the economic efficiency of the dairy industry of the Kazakh agro-industrial complex;
- To determine the conjuncture of the dairy market in Kazakhstan;
- To identify regional features of the development of dairy production and give them an assessment, to determine the possibility of using cluster initiatives;
- To develop the direction of improving the system of state regulation of the market of milk and dairy products in Kazakhstan.

Due to the lack of domestic raw materials, many dairy plants began to use imported dry milk, which significantly increased the dependence of the market on the conditions of supply of this raw material. The practice of economic activity of the agro-industrial complex of the republic shows that in this sphere there is a multitude of problems that prevent its development, which requires the activation of efforts aimed at improving the situation. This sphere of animal husbandry is already in the center of attention of the government for a long time. Back in the beginning of 2010, the Ministry of Agriculture applied for the implementation of a separate master plan for the development of dairy farming in 2014-2020. The goal was and remains simple—to increase domestic production to replace the import of milk and dairy products. Messages of the President of the Republic of Kazakhstan K. K. Tokaeva noted that the people of Kazakhstan in 2021 “Unity of the people and systemic reforms—a solid basis for the prosperity of the country” is the main task of the agro-industrial complex—the full provision of the country with basic food products (Tokaev, 2021).

Degree of study of the problem. Problems of formation and development of the market were developed in detail by the world economic science. In the formation and development of market theories, a weighty contribution was made to scientific work I. Ansoffa, K. R. McConnell, R. Barra, P. Drucker, F. Kotler, A. Marshall, C. Madjaro, M. Porter, J. W. Evans and other economists.

These problems were studied by many Russian scholars, including A. N. Al-tukhov, V. R. Boyev, I. Buzdalov, V. A. Dobrynin, N. G. Ushachev, and others. The study of these aspects is dedicated to the work of Kazakh scholars G. A. Kalyeva, A. K. Koshanova, M. B. Kenzheguzina, T. A. Esirkepova, A. B. Moldasheva, A. A. Satybaldina, A. T. Aimen and others.

Problems of competitiveness of domestic production, ensuring food security of the state, development of the dairy industry of the RK APK were considered in the work of B. A. Aldashova, S. B. Akhmetzhanova, B. B. Grigoruka, S. B. Kur-mangaliyeva, G. A. Nikitina and others.

At the present time, there is a need for scientific research, revealing changes in methodological approaches and determining the practical mechanisms of regulating the domestic market of dairy products, the completeness of the production.

2. Materials and Methods of Research

Original data on the study of problems served the proposals of domestic and foreign scholars, [Data of the Committee on Statistics of the Ministry of National](#)

Economy of the Republic of Kazakhstan (2020), as well as scientific institutions of the country and regulatory documents on agricultural development. Abstract-logical, economic-mathematical, economic-statistical, calculation-constructive methods of research were used in the research process.

The dairy industry is the most important part of the agro-industrial complex of the country. Effective milking industry has a great value for ensuring the consumption of dairy products and raising the living standards of the population. The dairy market tracks data on the industrial and manufacturing activities of enterprises expressed in the form of products. The main indicators that characterize the market of dairy products are:

- 1) Volume of production of milk products in cost and in kind;
- 2) Volumes of unloading of dairy products in cost and in kind;
- 3) Index of physical volume of milk production.

By the products of the dairy industry understand the direct useful result of the industrial activity of enterprises, expressed in the form of dairy products. In this definition, the following features of the products of the dairy industry are noted:

- In the first place, the product of the dairy industry is considered to be the result of the activity of the enterprise, that is, to which the work was applied. Therefore, if the part of the enterprise that received the raw material was processed without processing, then it will not enter the volume of production of this enterprise;
- In the second, the result is considered to be industrial (i.e., basic), and not all the activities of the enterprise. This means that the products of non-industrial production, for example, the sale of the remaining cost of equipment or work on capital and current repairs of the building and construction of the enterprise, including the production of food industry;
- In the third, the direct result of industrial activity is considered, which corresponds to its indirect purpose. Thus, the products of the dairy industry do not relate to technological waste received in connection with the incomplete use of raw materials and supplies. But if the waste is used for the production of products, then they are taken into account in the cost of these products. Outputs should be distinguished from those associated products that are obtained in the process of production of basic products. They have an independent value, and their issue is included in the volume of production of the enterprise;
- In the fourth, there is a useful result of industrial activity, which satisfies the established requirements and can be used for its intended purpose. Therefore, the product is not considered a production defect of all species, including the volume and sold on the side.

Dairy products are very nutritious and useful for human life (*Business Media Group, Report on Marketing Research, 2011*, <https://www.damu.kz>). Their value in human nutrition is determined by the chemical composition and food properties—the milk contains more than 200 different easily digestible and easily di-

gestible substances: the solubility of milk is 95%, milk protein is 98% milk.

Dairy products include a huge range of goods that are vitally important to meet the needs of man. The dairy industry is represented by such sub-sectors as whole milk, butter, cheese and milk-canning. They produce milk, kefir, ryazhenka, cottage cheese, butter, cheese, sour cream and others. These products are intended for a wide range of consumers and should be consumed regularly, as long as they contain ingredients that allow you to maintain good health, resistance to various diseases, and maintain an active lifestyle.

Dairy industry depends on the geographical factor, which determines its composition, structure and characteristics of the distribution of enterprises in certain regions. In turn, the geographical factor is characterized by specific aspects, such as the specificity of the raw material base in different geographical conditions, the specificity of national and religious traditions in the consumption of food products and the quality of food products (Euromonitor Country Report, 2016).

Considering the universal demand for dairy products, the enterprises that produce them are the most numerous in the world industry and include themselves as small production enterprises, as well as large enterprises (Program for the development of agro-industrial complex in the Republic of Kazakhstan for 2013-2020 "Agribusiness 2020" - Astana, 2013). The size of enterprises depends on the type of products produced and territorial distribution, but due to a stable demand for dairy products in any food enterprises, the cost of production occurs in a shorter period of time than that (<http://www.stat.gov.kz/>, 2020).

The dairy industry is closely linked with all branches of the national economy. According to statistics, the total volume of transported goods in the territory of Kazakhstan by different types of transport falls on the share of food products, including milk. Traditionally, close ties have been established in the food industry with agriculture, which led to the formation of the agro-industrial complex in its time.

In the dairy industry, the most valuable of consumer and economic positions, of course, products are created in the process of supply of basic products and semi-finished products of special consumer goods, canned goods (canned goods). The development of technology for the processing of products, the creation of new products and the further increase in the taste and aesthetic quality of the final consumer product will allow the manufacturer to raise its holiday price. Therefore, the problem of further expansion of the range, improvement of consumer and aesthetic properties is relevant for enterprises in the dairy industry.

The peculiarities of the market development of the dairy industry is that milk is produced daily, but is stored for several days, which limits the time necessary for its processing. In connection with this specificity, dairy products should be implemented in the shortest possible time, so it is necessary to develop infrastructure: backup storage and refrigeration capacity, developed system of transportation, specialization.

The main link in the processing of milk is the processing enterprises, the ac-

tivity of which depends on rural producers of milk. They are sold in commodity markets by sellers, and in raw materials—by buyers. The main part of consumers is concentrated in the urban area, and the production of milk—in the rural area, so the demand and offer are separated from each other geographically, which contributes to the growth of costly, related. Another feature of the dairy industry is the seasonality in the acquisition of milk by processing enterprises, which is not only due to natural and climatic conditions, but before the general level of development.

From the data in **Table 1** below, we found that the volume of milk production in the regions of the Republic increased by 709.7 thousand tons. Only in the large cities, in particular in the cities of Nur-Sultan and Almaty, it is possible to observe a decrease in milk production.

The volume of cow's milk production in Kazakhstan in 2020 increased by 13.2% compared to 2016. Milk production in Kazakhstan in 2020 has grown significantly. Growth was observed in all regions of the republic in different relative and absolute progress. The exception was two cities of the republican subordination of Almaty and Nur-Sultan, where there was less milk than in 2016. According

Table 1. Milk production. (Thousand tons: Outs. Tons)

	2016	2017	2018	2019	2020	Deviation +; –	%
All economic categories							
Republic of Kazakhstan	5341.7	5503.4	5642.3	5820.1	6051.4	709.7	113.2
Akmola region	378.6	385.3	387.4	397.9	404.7	26.1	106.8
Aktobe region	307.1	315.4	327.6	338.0	345.4	38.3	112.4
Almaty region	696.9	723.4	758.0	792.8	818.2	121.3	117.4
Atyrau region	61.3	62.1	63.2	63.6	66.7	5.4	108.8
West Kazakhstan region	227.7	231.9	234.9	236.8	237.2	9.5	104.1
Zhambyl region	297.6	306.2	315.0	323.6	329.2	31.6	110.6
Karaganda region	436.2	456.7	472.6	482.7	510.7	74.5	117.1
Kostanay region	380.3	384.1	410.0	420.4	428.7	48.4	112.7
Kyzylorda region	88.6	89.8	91.6	93.9	96.1	7.5	108.4
Mangystau region	10.9	11.7	12.4	12.5	12.5	1.6	114.6
Pavlodar region	364.4	371.0	383.1	393.1	405.7	41.3	111.3
North Kazakhstan region	525.6	546.1	555.1	567.7	597.9	72.3	113.7
Turkestan region	674.6	687.1	706.6	730.1	756.5	81.9	112.1
East Kazakhstan region	839.2	879.6	917.7	951.4	991.9	152.7	118.1
Nur-Sultancity	0.5	0.5	0.4	0.3	0.2	–0.3	40
Almatycity	5.1	5.2	5.2	5.0	2.6	–2.5	50.9
Shymkentcity	47.1	47.3	45.4	46.0	47.2	0.1	100.2

to the Statistics Committee of the Republic of Kazakhstan in 2018 in Kazakhstan produced 5642.3 thousand tons of cow's milk, and in 2019 5820.1 thousand tons, in 2020 6051.4 thousand tons. This is 177.8 thousand tons or 3.2% more (Aimen et al., 2021).

In two areas, the production of cow's milk has grown more than 30 thousand tons. This is the East Kazakhstan region—on 36.5 thousand tons with 914.9 to 951.4 thousand tons and Almaty region—on 34.6 thousand tons with 753.6 to 788.2 thousand tons.

In five regions of growth milk production is more than 10 thousand tons. In the Karaganda region on 17.1 thousand tons with 465.6 to 482.7 thousand tons, in the North-Kazakhstan region at 12.7 thousand tons with 555 to 567.7 thousand tons, in the Aktobe region at 10.4 thousand tons with 325.7 to 336.1 thousand tons, in Akmola region at 10.3 thousand tons with 385.8 to 396.1 thousand tons and Kostanay region at 10.3 thousand tons with 408.4 to 418.7 thousand tons. In other areas, the increase in milk yield is 10 and less tons.

The following table analyzes the level of profitability (loss) of production of certain types of agricultural products.

From the data in **Table 2** below, we found and analyzed that milk production in Kazakhstan increased by only 3.1%. We found a decrease in milk production in Mangistau region and in North Kazakhstan, Turkestan and East Kazakhstan regions.

Production of basic livestock products (**Chart 1**)

Table 2. Level of profitability (unprofitability) of dairy production by region. (Milk/as a percentage).

	2016	2017	2018	2019	2020	Deviation (+; -)
Republic of Kazakhstan	30.3	29.1	35.2	28.9	33.4	3.1
Akmola	36.3	28.0	33.0	22.9	48.5	12.2
Aktobe	0.7	1.9	1.2	3.3	24.1	23.4
Almaty	7.8	18.1	22.3	21.3	13.7	5.9
Atyrau	36.0	6.6	3.8	8.0	43.1	7.1
West Kazakhstan	23.5	24.7	41.7	51.4	37.9	14.4
Zhambyl	9.7	9.9	12.3	10.7	10.9	1.2
Karaganda	17.5	46.2	34.6	46.8	45.1	27.6
Kostanay	43.1	61.2	56.0	37.1	33.0	-10.1
Kyzylorda	17.6	-36.7	-36.2	-29.2	39.8	22.2
Mangystau	4.6	-19.0	-10.2	-8.7	-	-
Pavlodar	30.7	33.7	47.4	32.2	46.8	16.1
North Kazakhstan	39.1	33.6	51.0	48.8	38.2	-0.9
Turkestan	18.5	12.2	15.4	14.4	9.8	-8.7
East Kazakhstan	42.5	26.7	33.4	31.0	34.0	-8.5

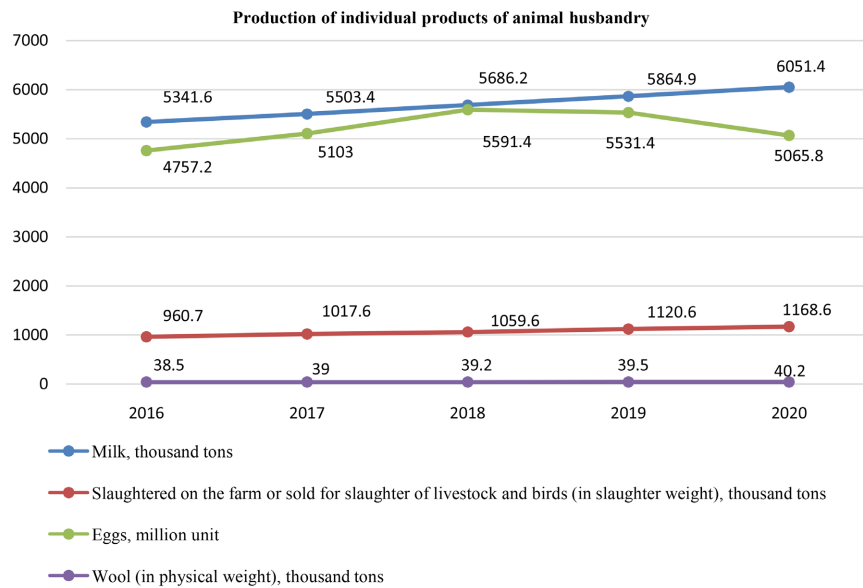


Chart 1. Production of individual products of animal husbandry.

3. Results and Discussion

In the following years in the Republic of Kazakhstan as a result of targeted agricultural policy, especially in the field of dairy farming, some progress has been made in increasing the production of milk and animal productivity. According to the Statistics Committee of the Republic of Kazakhstan, in the last five years (2016-2020) there is a significant increase in the number of tribal dairy cattle. Thus, for the period under review, the number of tribal dairy cows in the Republic of Kazakhstan increased by 23.1%. According to the data of scientists-breeders of the country, in the south-east of the republic by crossbreeding of Swiss bulls with Alatau breeds of cattle created a new dairy type of cattle “Ak-Yrys” with an average yield of 5000 - 500 kg per cow for lactation 4800 cows. In the east of the country with the use of bulls red-variegated Holstein and Ayrshire breed on the basis of cows of Simmental breed was created and tested a new red-varietal type “Irtys”. The average weight of these animals is 5200 - 5600 kg with a fat content of 3.8%. In the central regions of Kazakhstan with the use of bulls Holstein black-and-white breeds tested new type—Priishimsky and Sayram, the average yield of these cows is 5000 - 5200 kg for lactation at milk fat content of 3.7% - 3.8%. Thus, the growth potential of the tribal resources and the increase in the volume of sales of tribal youth in the commodity herd contributed to a significant increase in the average yield per cow in the republic (<http://www.inform.kz>, 2021).

The choice of milk for Kazakhstanis is important, because a quality product is a guarantee of the health of the whole family. Consuming a lot of dairy and sour milk products, such as cheese, cottage cheese, kefir, kefir, sour cream and so on, the attitude to cow’s milk is special (<http://www.stat.gov.kz/>, 2020).

Consumers living in the urban area, choosing a healthy lifestyle, prefer milk

with low fat content. In general, the trade network represents a different degree of fat content from 0.5% to 6%. Depending on fatness and purchasing power, they vary and prices on milk.

For the rural population is very important, the price that is manifested in the process of its consumption and is associated with a significant degree of fatness and freshness. The rural buyer pays more attention to the packaging, its shape and size. The parameter of purity for it does not play a real role, as in the conditions of large-scale industrial production (machine milking system, pasteurization, automated milk flow in the grain, etc.) practically excludes contact with the milking parlor.

The growth rate of industrial production and oil products is negatively reflected in the self-sufficiency of agricultural production. The difficult situation remains with the provision of agricultural producers with agricultural machinery. Ownership of its update is practically non-existent. Lending will become available only for trade and industry, but not for the village. Allocated funds from the budget for the provision of equipment on a leasing basis allow to acquire only a small amount of it, then the need is significantly higher (<http://www.minagri.gov.kz>, 2021). General problems in the dairy market, you can highlight the following:

- Lack of competition, dictating the price of offers for certain groups of goods;
- Low level of market saturation in the regions (in each region there is a shortage of some goods);
- Production capacity and, as a result, a high level of value;
- Low share of scientific production;
- Lack of orientation on the issue of fundamentally new goods;
- Underdevelopment of export orientation of production, passivity of entrepreneurs in the development of foreign markets;
- Poorly developed market infrastructure;
- Lack of information, analytical and forecasting bases of economic data and qualitative services in the study of commodity markets and conjuncture;
- Poor application of principles and approaches to marketing by farmers and private entrepreneurs;
- Low level of management, the need to stimulate competition and honest market relations (Moldasheva et al., 2008).

Large milk processing enterprises are forced to buy dry milk, to use it as the main raw milk for the production of dairy products by the way.

Development of dairy cattle breeding and milk processing industry of Kazakhstan contain the following factors:

- Livestock condition, technical backwardness of livestock farms;
- High costs and labor intensity of production;
- Low productivity of the herd, which is one of the reasons for the low profitability of dairy farming;
- Unfavorable entrepreneurial climate, insufficiently effective for the protec-

tion of domestic producers;

- It is related to and with taxation, and with the availability of cheap dry milk from foreign countries, as well as dairy products, which surpasses the price of domestic producers;
- Low level of material and technical base of most processing enterprises;
- Shortage of qualified specialists of higher and middle level, which is a big problem of the dairy industry;
- Sharp reduction of KRS milk direction as the main source of raw material production - milk;
- Sharp reduction of agricultural areas of forage crops, which led to the destruction of forage bases.

This trend is observed in Kazakhstan for the last 15 years (<http://www.stat.gov.kz/>, 2020).

4. Conclusion

To solve the problem of ready-made dairy products, we need: development and implementation of technical regulations and standards for new types of dairy products, harmonized with international requirements. To solve the problems of growth of quality and competitiveness of raw materials in the republic, it is necessary to pay attention to the following directions:

- Improvement of dairy cattle breeding and increase of its productivity and biological value;
- Use of progressive methods of obtaining and processing of raw materials;
- Effectiveness of quality control of raw materials when receiving and processing on dairy farms.

However, their fulfillment in modern conditions, when 91.1% of milk is produced in the personal subdivisions of the population, is impossible, so it is necessary to form specialized dairy farms of large and medium sizes. Only in them it is expedient to carry out the specified complex of measures, providing high quality of raw materials.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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