RELEVANT ISSUES OF INTENSIFICATION OF DOMESTIC LIVESTOCK PRODUCTION

АКТУАЛЬНЫЕ ПРОБЛЕМЫ ИНТЕНСИФИКАЦИИ ОТЕЧЕСТВЕННОГО ЖИВОТНОВОДСТВА

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Abstract. Aim – the article is devoted to the analysis of the current state of the livestock production of the Republic of Kazakhstan in the context of the regions. Methods – analysis, synthesis, systems approach, logical. Results – the dynamics of the population number of livestock and poultry in the republic by farm categories for the period 2018-2020, indicators of gross livestock production are presented. It is noted that agricultural sector, being one of the priority directions of the country's economic development, has great potential and significant reserves, almost all types of agricultural crops of the temperate climatic zone are grown, and the volume of livestock products is increasing. The article discusses the production of ready-made feed for farm animals in kind by regions. The authors state that currently one of the relevant issues in the development of the agro-industrial complex is the low level of labor productivity due to low automation and digitalization of technological processes. The need to meet the demand for livestock products on domestic market of Kazakhstan, as well as to increase its export resources, sets the priority tasks for Kazakhstani science and practice aimed to develop, scientifically justify and master modern technologies for production of low-cost, environmentally friendly, and competitive goods. They should be resource-saving, aimed at maximizing the use and improvement of the genetic potential of farm animals, adapted to the specific natural and economic conditions of the republic. Conclusions – the development and mastering of such innovations will reduce the negative impact on the environment, enable the effective use of material, land and water resources. The main problems hindering the effective development of the livestock industry in the Republic of Kazakhstan are identified, its promising directions are determined.
Аннотация. Цель – статья посвящена анализу современного состояния животноводческой отрасли Республики Казахстан в разрезе регионов. Методы – анализ, синтез, системного подхода, логический. Результаты – представлены динамика численности скота и птицы в республике по категориям хозяйств за период 2018-2020гг., показатели валовой продукции животноводства. Отмечается, что аграрный сектор, являясь одним из приоритетных на правлений развития экономики страны, обладает большим потенциалом и значительными резервами, вырастающими практически все виды сельскохозяйственных культур умеренного климатического пояса, наращиваются объемы животноводческих продуктов. В статье рассматривается произ водство готовых кормов для сельскохозяйственных животных в натуральном выражении по областям. Авторы констатируют, что в настоящее время одна из актуальных проблем развития агропромышленного комплекса – невысокий уровень производительности труда вследствие низкой автоматизации и цифровизации технологических процессов. Необходимость удовлетворения спроса на животноводческую продукцию на внутреннем рынке Казахстана, а также увеличения ее экспортных ресурсов ставит перед казахстанской наукой и практикой первоочередные задачи разработки, научного обоснования и освоения современных технологий производства низкозатратных, экологически чистых, конкурентоспособных товаров. Они должны быть ресурсосберегающими, направленными на максимальное использование и улучшение генетического потенциала сельскохозяйственных животных, адаптированными к конкретным природным и экономическ им условиям республики. Выводы – развитие и освоение таких нововведений позволит ослабить негативное влияние на окружающую среду, эффективно использовать материальные, земельные и водные ресурсы. Выявлены основные проблемы, сдерживающие эффективное развитие отрасли животноводства Республики Казахстан, определены ее перспективные направления.

Key words: agro-industrial complex, livestock production industry, agricultural entities, population number of livestock and poultry, material, land, water resources, low-cost, environmentally friendly, competitive products.

Туынды сәйздер: агропромышленный комплекс, животноводческая отрасль, сельскохозяйствен ные направления, поголовье скота и птицы, материальные, земельные, водные ресурсы, низко затратная, экологически чистая, конкурентоспособная продукция.

Ключевые слова: агропромышленный комплекс, животноводческая отрасль, сельхоз формирования, поголовье скота и птицы, материальные, земельные, водные ресурсы, низко затратная, экологически чистая, конкурентоспособная продукция.
**Introduction.** The general aim of agricultural development is to increase labor productivity and exports 2.5 times. Kazakhstan has a huge agricultural potential, which makes it possible to make an actual leap forward in agriculture in the subsequent 5 years.

Agricultural economy, being one of the priority directions of the country's economic development, has big potential and huge reserves, whilst producing nearly all types of agricultural crops of the temperate climatic zone, as well as the potential to increase livestock production.

Aiming to satisfy the demand for goods on the domestic market of the Republic of Kazakhstan in connection with economic development, as well as to increase export resources, Kazakhstani company is engaged in the development, scientific justification and development of modern production technologies.

Livestock production in Kazakhstan was usually taken into account as one of the most important directions in agribusiness sector, which is also a monetary leverage for the country [1].

Based on current research, the introduction of the latest technologies suggests that increasing the competitiveness of livestock farms in the country will affect the growth in accordance with the new requirements. In this regard, it can be seen that the intention is to strengthen government assistance for the development and prosperity of livestock production and the expansion of agricultural market. The development of processing enterprises in accordance with the new requirements of the Republic of Kazakhstan requires considering the long-term programs and attracting sources of investment: tax exemption for new producers, price adjustments and their modernization in accordance with new requirements; distribution between enterprises at preferential rates, taking into account the terms of lending, etc.

**Material and methods of research.** The development of this industry is hindered by the lack of economic mechanisms that could stimulate all participants in the technological chain "from production to consumer". Today this whole "chain" is broken and, as a result, there are no stable links between processing enterprises and suppliers of raw materials, that is, directly with agricultural entities.

In order to improve the efficiency of the livestock industry, it is necessary:
- to create: specialized farms with medium and large-scale production, providing processing enterprises with high-quality raw materials that meet international standards;
- to build dairy complexes which are focused on consumer demand for production of deep processing products, and large feed complexes capable of producing high-quality goods in sufficient volume both for domestic consumption and for export.

In general the research performed enables to state that it is very important to increase the competitiveness of the country's livestock farms based on the introduction of latest technology into production. Besides, the willingness to strengthen public support measures will assist the livestock farms to stimulate the increase in livestock production productivity and extend agricultural product sales markets. Also, a long-term program support for the improvement of the processing enterprises in the Republic of Kazakhstan is needed, which will include tax exemption, price range, allocated for modernization and reconstruction; distribution of assets with loan rating among the businesses at preferential rates, etc. [2].

**Results and their discussion.** According to the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the number of cattle at the beginning of 2020 amounted to 7 436.4 thousand heads, pigs - 813.3 thousand heads, sheep and goats – 19 155.7 thousand heads, horses – 2 852.3 thousand heads, camels - 216.4 thousand heads, poultry of all kinds - 45.0 million heads (table 1).

| Year | Cattle | Sheep and goats | Pig | Horse | Camels | Poultry, million heads |
|------|--------|-----------------|-----|-------|--------|------------------------|
| 2018 | 7 150.9| 18 699.1        | 798.7| 2 646.5| 207.6  | 44.3                   |
| 2019 | 7 436.4| 19 155.7        | 813.3| 2 852.3| 216.4  | 45.0                   |

The economic management mechanism
The number of livestock and poultry in the Republic of Kazakhstan by category of farms is shown in table 2. Table 2 shows that the largest number of livestock falls on household farms, and the number of poultry prevails on agricultural enterprises, mostly on large poultry farms. Kazakhstan has vast areas of agricultural land, including those which are required to provide livestock with fodder. The main sources for providing livestock and poultry with fodder in the republic are pastures, natural and sown hayfields, arable land for growing fodder crops. Gross livestock production is shown in table 3.

Table 2 - The wide variety of livestock and poultry in the Republic of Kazakhstan in types of farms (at the start of the year), thousand heads

| Year   | Cattle | Sheep and goats | Pig   | Horse   | Camels | Poultry, million heads |
|--------|--------|-----------------|-------|---------|--------|------------------------|
| All categories of farms | | | | | | |
| 2018   | 7 150.9 | 18 699.1 | 798.7 | 2 646.5 | 207.6 | 44.3 |
| 2019   | 7 436.4 | 19 155.7 | 813.3 | 2 852.3 | 216.4 | 45.0 |
| Agricultural enterprises | | | | | | |
| 2018   | 712.8 | 830.0 | 214.3 | 163.4 | 14.2 | 32.4 |
| 2019   | 717.9 | 874.2 | 241.0 | 181.1 | 15.2 | 32.8 |
| Peasant or farm households | | | | | | |
| 2018   | 2 409.8 | 7 061.8 | 93.2 | 1 186.5 | 82.9 | 0.5 |
| 2019   | 2 624.3 | 7 573.3 | 78.7 | 1 321.2 | 87.4 | 0.7 |
| Households of the population | | | | | | |
| 2018   | 4 028.4 | 10 807.3 | 491.2 | 1 296.7 | 110.5 | 11.4 |
| 2019   | 4 094.3 | 10 708.2 | 493.6 | 1 349.9 | 113.8 | 11.6 |

Table 3 - Production of ready-made feed for livestock in the context of regions, thousand tons

| Region             | 2018     | 2019     | 2020     |
|--------------------|----------|----------|----------|
| The Republic of Kazakhstan | 2 050 455.8 | 2 319 496.7 | 2 637 460.7 |
| Akmola             | 136 878.5 | 167 946.2 | 202 790.8 |
| Aktobe             | 148 838.2 | 174 866.2 | 202 120.1 |
| Almaty             | 357 200.1 | 380 094.0 | 430 331.6 |
| Atyrau             | 39 728.5 | 45 013.9 | 48 764.2 |
| West Kazakhstan    | 9 365.8  | 107 782.4 | 127 066.5 |
| Zhambyl            | 120 773.5 | 141 451.9 | 161 919.3 |
| Karaganda          | 155 131.9 | 202 347.2 | 215 670.5 |
| Kostanay           | 118 188.5 | 132 667.3 | 160 750.3 |
| Kyzylординskaya    | 39 561.0  | 45 705.8  | 52 888.5 |
| Mangystau          | 12 552.5  | 15 528.2  | 15 417.8 |
| South Kazakhstan   | -        | -        | -        |
| Pavlodar           | 116 175.9 | 128 526.9 | 147 999.6 |
| North Kazakhstan   | 147 714.5 | 159 332.3 | 178 087.7 |
| Turkestan          | 255 326.4 | 270 876.7 | 304 785.1 |
| East Kazakhstan    | 292 696.4 | 326 421.5 | 365 954.5 |
| Nur-Sultan          | 189.3    | 150.5    | 151.7    |
| Almaty city        | 1 571.6  | 1 626.9  | 826.3    |
| Shymkent           | 16 563.5  | 19 156.7  | 21 936.2 |

According to table 3, in the context of regions, the growth rates of gross agricultural output are higher than the republican ones in 10 regions: Almaty, Akmola, Aktobe, Pavlodar, Turkestan, North Kazakhstan, Zhambyl, East Kazakhstan Karaganda, Kostanay. 

In livestock production, the increase in the population number of livestock and poultry of all types is observed. Thus, the population of cattle increased by 4%, sheep and goats - by 2.4%, horses - by 7.8%, poultry - by 1.6% [3]. Also, there was an increase in production of meat in live weight by 5.5% (1 975 thousand tons), milk - by 3.1% (5 864.9 thousand tons). Food production for the specified period increased by 3.9%.
Currently, 45% of the total gross agricultural product produced in Kazakhstan is accounted for livestock production. As part of the development of the agro-industrial complex for 2017-2021, about 30% is allocated to subsidize investment projects in the field of livestock production.

On the basis of analysis and comparison of the potential of external markets and internal production opportunities, the main long-term priority for the development of the agro-industrial complex is determined by meat livestock production.

The adopted model is based on the traditions of nomadic distant pasture animal husbandry and the competitive advantages of Kazakhstan:

- 180 million ha of pastures (of which 58 million ha are used);
- 3.8 million people of the working rural population (of which 1.3 million people are employed in agriculture);
- proximity to the main growing markets with total imports of more than 2.0 million tons per year;
- developed crop production, which has unlimited potential for the development of a fodder base, including on irrigated lands (by 2021, the area of irrigated land will be up to 2.0 million ha, by 2030 - up to 3.0 million ha) [4].

The new approach foresees the participation of a large number of small farms in a single technological conveyor of meat production. Family farms will be engaged in raising livestock and obtaining gobbies for fattening, industrial feedlots - intensive feeding, meat processing plants - industrial slaughter of livestock, deep processing and marketing of finished products.

The production of livestock products in the country is characterized by:

- low competitiveness and productivity of animals (the average annual milk yield per cow is slightly more than 2.0 thousand liters per cow, while in developed countries 6.0 thousand liters and more are produced), as well as low quality products, 74% of milk is produced by households that do not have the necessary material and technical base, veterinary and zootechnical service for production of quality products;
- high production cost and selling price;
- a low level of selection and breeding work, the number of breeding animals increases annually by an average of 5-15% (in developed countries this figure is 40-50%);
- lack of linkage between all technological links of reproduction process, rural entrepreneurs located in remote villages are far from sales markets, their raw materials remain unclaimed due to high transport costs;
- low level of development of modern technologies for production of low-cost, environmentally friendly, competitive products of the industry;
- high share of imports of meat and dairy products on the domestic market, in particular, 150-170 thousand tons of poultry meat are imported annually, etc.

Another problem in AIC is processing of agricultural products. Despite the undertaken public support measures, the share of agricultural products processing in the total production volume remains low. According to the data of the Ministry of Agriculture of the Republic of Kazakhstan, the capacities of processing plants are loaded only by 20-60%. Less than 30% of produced meat, milk, fruits and vegetables are processed [5,6].

The underutilization of the capacities of meat and milk processing enterprises is explained by the fact that the main livestock population is concentrated in households, where the products are sold in small batches and, mainly, on the local market. Products made at households, in many respects do not meet sanitary and hygienic requirements. Households produce 56% of meat and 74% of milk. These farms are practically unable to organize the sale of the grown crop themselves due to the small volume of their production. Therefore, they are forced to sell them at a low price to intermediaries. It is estimated that the sale of products without intermediaries will increase the workload of processing enterprises 1.3 times. And the trade margin due to the reduction of intermediary links will decrease by 15-20% [7,8].

The work of processing enterprises is negatively affected by the lack of a planned, stable supply of raw materials for processing, as well as their weak material and technical base. For example, in the meat industry, no more than 12-15% of the functioning equipment is capable of providing competitive production. The average level of mechanization at meat processing plants is 30-40%, while 80% of loading and unloading operations are carried out manually. It has been determined that 50% of those working in meat processing plants also perform the work manually. To produce agricultural products with high added value, it is necessary not only to increase their volumes, but also to increase the production of finished products. For this, it is necessary to increase the supply of raw materials to processing enterprises.

The economic management mechanism
Based on general research, it is necessary to introduce modern technologies into production of agricultural products according to the latest models and to increase the competitiveness of the country’s livestock industry on the world market.

Kazakhstan occupies a special place in economic, social and cultural development. The well-being and the living standard of the population are almost completely determined by the livestock population number. Livestock production in Kazakhstan needs replacement of pastures, and therefore, the need for increasing public support for livestock production development is noted [9, 10].

There are still many unresolved issues in agriculture. The most important thing is to provide the population with high-quality, nutritious and affordable food, protect the environment from pollution and improve the use of natural resources, as well as find sources of effective investment in livestock production.

This will ensure the country’s food security, increase the income of rural entrepreneurs, provide 2.5 times increase of labor productivity and 2 times increase of export of agricultural products.

Conclusion
1. For the increase of the livestock productivity it is necessary:
   ● to create: medium and big production farms, which offer the processing enterprises raw substances that meet global standards;
   ● construction of customer dairy complexes for production of deeply processed merchandise and huge feed turbines able to produce enough quantity of exceptional products for domestic consumption and for export.

2. In general, there is an aim to increase the competitiveness of the country’s livestock farms through the creation of the latest advanced technologies and their introduction into production. There is also the need to extend the range of the assistance for the cattle breeding sector aimed to enhance cattle productivity and extend the agricultural product market.

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The economic management mechanism