

Current Status and Trends Dual Purpose Production

Gabdrashit Musinovich Aubakirov

Kazakh Research Institute of Economics of Agriculture and Rural Development, Chief Scientific Officer, Astana, 010000, the Republic of Kazakhstan, Auezova Street 24, flat 9
g0058@inbox.ru

Abstract: The article deals with the problematic issues related to livestock; determines the causes of decline in production; identifies competition factors, economic circumstances and state regulation of organizational basis for the functioning of agriculture. In this connection, the dynamics of change in gross production of milk and meat in all categories of farms is shown as well as the role and importance of households in livestock production, and ways of overcoming the small scale of farms' production. Restoration of breeding, strengthening of the genetic potential of the animals through livestock import, strengthening of food supply, as well as state aid to modern farmers are studied as the main factors for increasing the efficiency of production.

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1. Introduction

Many countries face the food problem. Burundi, Ethiopia, Kenya, Madagascar, Nigeria, Sudan, Tanzania, and Zambia all had negative per capita annual growth rates in staple food of -1.0 to -1.7 percent from 1995-2004 [1, p.95]. In Kazakhstan, agricultural manufacturers cover only 80% of the population's demand in meat and milk. Therefore, the problem of food security is still vital. To resolve this problem, efficient development of livestock breeding, improvement of species composition of animals, which is dedicated to increasing their numbers and productivity, is required.

Presently, the number of cattle and poultry has not recovered to their number before the market transformation. As an example, we can provide comparison of statistics for 1991 and 2011 in millions of heads: cattle – 9.5 and 5.7; sheep and goats – 3.5 and 2.5; pigs – 3.0 and 1.2; poultry – 60

and 33. Obviously, the difference in number of heads of all types of animals is quite considerable.

Therefore, the importance of the food problem is becoming greater [2, p.53]. There was a tendency of number decreasing between 1992 and 2000. And between 2000 and 2010, the tendency changed for gradual increase of all types of cattle and poultry number. The average growth rate during this period was: 5% for cattle; 8% for sheep and goats; 2.5% for pigs; 6.6% for poultry. However, the tendency failed to continue in 2011 with respect to cattle and pig breeding. During 2010-2011, the cattle number decreased from 6,175.3 to 5,702.4 thousands of heads or by 7.7% and the pigs number decreased from 1,344 to 1,204.2 thousands of heads or by 9.5%.

The decrease of the cattle number immediately affected milk production (refer to Table 1). Nevertheless, meat production managed to keep positive growth dynamics.

Table 1 – Milk and meat production in all categories of farming enterprises of Kazakhstan in 2008-2011.

Indicators	2008	2009	2010	2011	2008-2011 average, %
Milk production, th. tons	5,198.0	5,303.9	5,347.5	5,232.5	0.2
Total meat production (slaughter weight), th. tons	874.2	896.3	937.4	939.4	1.9

Source: Data provided by the Agency for Statistics of the Republic of Kazakhstan

The main cause of heads decrease in cattle and pig breeding industries is the decrease of the share of cattle and poultry in private households (refer to Table 2). The causes of the number decrease are the insufficient resistance to market demand fluctuation and other market factors, such as lack of governmental support. Though the number of heads in households gradually decreases over time, the main cattle population is concentrated in them. This resulted in the fact that in 2011 major part of meat and milk (more than 75% and approx. 90% accordingly) was produced by households.

Small-scale production prevails in our country. To move away from small-scale cattle breeding, the following measures are to be taken:

1. creating new production units based on advanced technologies by means of implementation of innovative projects. Currently, the KazAgro holding company forwards finances for these purposes, borrowed from the National fund;
2. uniting of small manufacturers into cooperatives;
3. using incentive measures with respect to agricultural formations and family farms, which sell young fat stock to feed yards;
4. subsidizing agricultural businesses. Totally, the scope of subsidies in the livestock breeding sector grew from 4,544 to 23,920 million tenges between 2007 and 2011, or 5.3 times as much [3, p. 14].
5. creating favorable environment for development of households and their transformation into commercial farms. This must be resolved legislatively, first of all.

Table 2 – The change of cattle number share in households over time across Kazakhstan during 2010-2011, %

Cattle and poultry types	2010	2011
Beef cattle	80.7	76.7
Sheep and goats	68.3	67.0
Horses	66.5	62.7
Pigs	75.3	72.5
Camels	65.6	64.2
Poultry	43.7	40.9

Source: Data provided by the Agency for Statistics of the Republic of Kazakhstan

Soon, certain positive changes are to take place in the agricultural sector, which will concern development of agricultural businesses and peasant farms. As an example, the Program on agricultural sector development in the Republic of Kazakhstan during 2010-2014 provides for increasing the proportion of meat production by agricultural formations up to 30% and milk production by them up to 15% [4, p.42]. In 2011, the share of meat and milk produced by agricultural formations was 24.4% and 11.8% accordingly.

In the country, animals have low development potential. Therefore, one of the key issues of increasing the livestock breeding sector efficiency is improvement of pedigree qualities of local cattle by means of selection with highly productive cattle of foreign breeds. In 2011, the proportion of pedigree animals in the production of cattle was just 6.1%, sheep – 12.1%, horses – 6.1%, pigs – 13.0%, camels – 9.8%, and poultry – 11.0%. For example, milk yield per a cow is no greater than 2,250 liters per year.

For selection, we use breeds delivered from England, France, the USA and other countries [5]. The foreign cattle are used for improvement of breed and productive properties of local cattle breeds. Generally, the imported cattle adapt well and can stand the severe climate of our country [6]. During 2010-2015, 72 thousand heads of pedigree cattle of the world best meat breeds will be imported. By 2015, the proportion of pedigree cattle and poultry will be: 14% for beef cattle, 22% for sheep, 19% for pigs, 11% for horses, and 22% for poultry. The number of countries from where cattle are imported is very large. For example, in 2012, the structure of imported cattle was the following: Simmental breed - 19.5%; Angus breed - 57.7%; Hereford breed - 20%; Aubrac breed - 2.8%.

The purposes of these measures on improvement of pedigree base of beef cattle breeding are growth of production and sales of meat both for domestic consumption and for export supplies. It is planned to increase the export potential of beef up to 180 thousand tons by 2020. Therefore, new feed facilities and yards are being established almost in every region with financial support of KazAgro offices of the Ministry of Agriculture of the Republic of Kazakhstan. Approved projects combined with governmental support of manufacturers form prospective agricultural formations with innovative direction of livestock breeding development. The aggregate scope of investments in these projects is approximately 90 billion tenges. By the end of 2020, the scope of investments will be increased nearly 2.6 times as much. The required scope of total financing of development of the agricultural sector of the Republic of Kazakhstan will be increased 1.3 times as much and equal to 442 billion tenges [7, p.75].

Fodder production is the key of success of beef production as well as production of other livestock breeding products [8]. In 2011, the feed stuffs availability in the country was: for beef cattle – 35-38%, for sheep and goats – 14-23%, for pigs – 46-53%, for horses – 23-25%, for camels – 15-18%, and for poultry – 67%. The most vital issue is feeding imported cattle, which requires a balanced feeding structure. The gravity of situation requires improvement of the cultural areas' structure and abundance by scientifically-based crop rotation systems. The capabilities of agriculture do not finish here and must be oriented to increasing the proportion of fodder crops in the

total area up to 25-30% at least. In 2010, the share of fodder crops in the total cultural area of the country was about 12%.

It is reasonable to keep to the management strategy, which provides this sector with development opportunities. Presently, the value of feed compounds partially becomes cheaper (by up to 45%). Also, the cost of succulent and coarse fodders used for feeding beef cattle becomes less (4,500 tenge per one head).

However, these measures are not sufficient. Therefore, other measures are taken by regions, which are oriented to supporting fodder production. For example, in the Karaganda region, new approaches to governmental support of agricultural manufacturers have been elaborated within the framework of plant cultivation sector diversification. In 2013, in order to increase the share of forage and fodder crops in the structure of cultural areas, almost all subsidies to the plant cultivation have been forwarded to fodder production. This year, subsidies to agricultural manufacturers will be paid only for forage crops, such as barley and oats, in amount of 2,000 tenge per one hectare. Also, the subsidy size has been increased to 4,500 tenge per 1 hectare of crop, which is 3 times more than during previous years.

Another important issues is achievement of strong competitiveness of the manufactured products (refer to Table 3). The competitiveness assessment of a business is determined with respect of the following issues: production, sales, market share of production and sales, product efficiency assessment, etc. Theoretically, competitiveness of a business with larger market share is normally stronger. But the existing practice contradicts it. For example, in cattle breeding, competitiveness of peasant farms is stronger than in agricultural businesses. It is the small scale of production in peasant farms makes them highly competitive in the sphere of product sales, which results in higher sale price of products than in agricultural businesses (359.3 and 278.7 tenge for 1 kilogram of live weight meat). In other words, the best effect was achieved by peasant farms due to finding an efficient marketing channel of product sales, using the penetration strategy without changing the portfolio structure, rather than due to technological superiority or high quality of products [9, c. 522].

Table 3 – Profitability level of meat and milk production by agricultural formations in 2011 across the country, in per cents

	Agricultural formations - totally	including	
		agricultural businesses	peasant farms
Beef	33.0	10.1	43.6
Lamb	39.0	12.0	44.0
Pork	17.3	3.3	39.3
Horse meat	46.9	14.8	53.0
Camel meat	21.3	11.3	25.2
Poultry meat	16.6	16.6	45.1
Milk	48.6	42.0	53.0

Source: Data provided by the Agency for Statistics of the Republic of Kazakhstan

However, we can hardly say that peasant farms considerably influence the general price level in the market, as there are other suppliers, which occupy a large share of the production sphere (refer to Table 4).

Table 4 – Sales of meat and milk per one agricultural formation across the country in 2010-2011

Indicators	Agricultural businesses		Peasant farms	
	2010	2011	2010	2011
Sales of meat in slaughter weight per one agricultural formation, tons	14.6	9.5	0.5	0.5
Sales of milk per one agricultural formation, tons	20.6	13.2	2.0	2.1

Source: Data provided by the Agency for Statistics of the Republic of Kazakhstan

Normally, low costs result in competitive advantage in price terms. However, this indicator has not influenced the production efficiency of agricultural formations. The prime cost of products at peasant farms does not differ much from agricultural

businesses. For example, in 2011, the prime cost of 1 kg of meat at agricultural businesses and peasant farms was 246.7 and 248.5 tenge accordingly.

Therefore, actual situation at highly profitable peasant farms does not mean their

sufficient competitiveness, and, therefore, they cannot be recommended as the most efficient form of business. The matter is that there is the reverse side of the coin, which is related to a lot of complicated problems here: peasant farms have weak infrastructure, governmental and loan financing is not available for them. Peasant farms are in a worse position with respect to receiving governmental support. These data evidence that the protective function of peasant farms related to achieving strong competitiveness has not been formed to an adequate extent.

Generally, over time, the profitability of cattle and poultry at agricultural businesses remains unstable and low, which is not enough for extended reproduction without governmental support. It needs to be noted that governments of many developed countries provide support to agriculture from other non-agricultural sources of development [10]. Unfortunately, our farmers do not have other sources of their development. Therefore, improvement of livestock products' competitiveness requires economic incentives of the production from budget funds.

At peasant farms across all regions, production of all types of meat shows profitability. This fact indicates potential of production efficiency development by way of using favorable opportunities of selling all types of meat by peasant farms. As for milk, its production is cost efficient both for agricultural businesses and peasant farms. The interrelation between the sale price and the prime cost of products (with positive difference) ensures efficient production of milk in all regions of the country despite the organizational structure of the production.

Thus, new policy is required in the nearest future, which would ensure increasing meat and milk production and food security of the country. It is necessary to ensure high level of competitiveness and efficiency of production. An important factor of the production growth is improvement of genetic potential of animals and consolidation of fodder resources, as well as increase of the share of agricultural formations. The dominance of households in the organizational structure and lack of governmental support rendered to them strengthen the instability of livestock production.

Corresponding Author:

Dr. Gabdrashit Musinovich Aubakirov
Kazakh Research Institute of Economics of
Agriculture and Rural Development
Chief Scientific Officer
Astana, 010000, the Republic of Kazakhstan,
Auezova Street 24, flat 9
g0058@inbox.ru

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