

Experimental Cattle Feeding Indicators And Expected Results In The Republic Of Karakalpakstan

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Annotation. The issues of providing the population of our republic with livestock products as much as possible, meeting the needs of the people in every way, improving their health and solving important and urgent problems such as nutrition are raised in the article.

Key words: breed, genotype, hybrid, climate, purebred, growth, generation, productivity.

Introduction: Many breeds of cattle are imported from foreign countries to the regions of our republic with different natural climatic and ecological conditions. The most important of them is the Holstein breed with black-and-white and red desert colors. This breed is unique to the world gene pool, improving the meat productivity of cattle breeds bred in all regions of our Republic, including the northern regions and the Republic of Karakalpakstan.

It should be noted that the amount of meat per people in the Republic of Karakalpakstan is much lower than the level of need, therefore it is important to steadily increase the production of beef, which is in the first place in the structure of meat. It is known that beef is mainly obtained from dairy cattle breeds and their crossbreeding generations with different genotypes. In this regard, the subject obtained is relevant, because the breeds planned for the area considered the object of the experiment and the offspring obtained from their crossbreeding were selected.

Improvement of animal breeds, i.e. creation of breeds of animals with high life endurance, high productivity, fast breeding, improvement of sufficient feed base and the technology of preparing it for all types of animals. A lot of attention is being paid to animal care, protection from various livestock disasters, improvement of animal husbandry culture and

turning animal husbandry into one of the profitable sectors¹.

The purpose of the study. To increase the effectiveness of cattle breeding in the rapidly changing natural climate and unique ecological conditions of the Republic of Karakalpakstan, which is hot in summer and cold in winter.

Material and methods. The experimental part of the research was carried out in 2019-2021 at the "Maksud" farm in the Beruni district of the Republic of Karakalpakstan. This article provides information on the total feed spent on bull calves up to 18 months of age, and the economic indicators of the experiment.

The main part: As a result of the measures aimed at the development of animal husbandry, the number of cattle and the volume of production have been significantly increased in recent years.

The animal organism is constantly connected with the external environment, first of all with the air temperature. Therefore, one of the important conditions for creating favorable microclimatic conditions in livestock buildings is maintaining the health and increasing the productivity of farm animals.

Air temperature has a great influence on the metabolism of farm animals. The lower the air temperature, the more food the animals consume to maintain a moderate body temperature.

Temperature, humidity, and air movement greatly affect animal thermoregulation, as well as productivity and feed consumption. Moisture and air movement strengthen or, on the contrary, weaken the effect of temperature.

High-yielding animals are more sensitive to changes in temperature and humidity in the building than low-yielding animals.

In imported cattle, higher than normal air temperature in the summer months causes their appetite to be suppressed, feed consumption to decrease, their weight to decrease, and the amount of milk to decrease to 200-300 kg per year. In some cases, when the temperature exceeds 40 °C, the sun may strike and cause bad consequences. In the winter period, the air temperature in the barn should be on average +12 - +14°C, in the calf room +15 - +20°C, and in the summer months it is desirable to have +25 - +30°C.

Currently, cattle breeding is the main branch of animal husbandry, and animal husbandry plays an important role in ensuring food security for the population. Beef contains

35-55% of dry matter, 10-20% of protein, 15-45% of fat, 1-5% of mineral substances and a group of vitamins, which are important for the human body, and ensure its digestibility above 95%.

The rapid growth of cattle depends to a large extent on genetic qualities and environmental conditions. The most important of these is nutrition. There are many factors that influence fattening bull calves to achieve their full genetic potential for beef production. The main and most important of them is to feed them with full value.

It is important and the main zootechnical factor to make full use of the genetic potential of bull calves, to organize feeding them with a full-value food ration in improving their adaptation characteristics in new climatic conditions. We fed the bull calves in the experiment with a ration composed of local forages, taking into account all seasons and ages of growth.

The total amount of feeds consumed during the experiment and their nutrient content are presented in Table 1 below.

Table 1 Total feed spent on bull calves kg (per 1 animal)

Indicators	Groups			
	I	II	III	IV
	until 18 months			
Milk	353	353	353	353
Green alfalfa	5249	5264	5249	5164
Silage	2426	2432	2426	2426
Mangel	1125	1134	1125	1125
Wheat straw	562	573	562	463
Alfalfa hay	724	736	724	702
Cotton stem	583	594	577	521
Cotton seed fodder	314	316	311	294
Mixed forage	1519	1524	1516	1490
Food sufficiency:				
Food unit	3749,3	3770,2	3743,1	3646,2
Exchangeable power, Mdj	38028,0	38277,3	37989,0	36988,0
Dry matter, kg	4869,0	4419,0	4386,6	4229
Digestible protein, kg	582,4	585,7	581,3	566,2
Calcium, kg	43,2	43,2	43,1	41,9
Phosphorus, kg	15,0	15,0	14,8	14,5

The bull calves in the experimental groups were mainly fed with fodder grown on the farm itself. Let's say that their total nutrition is equal to

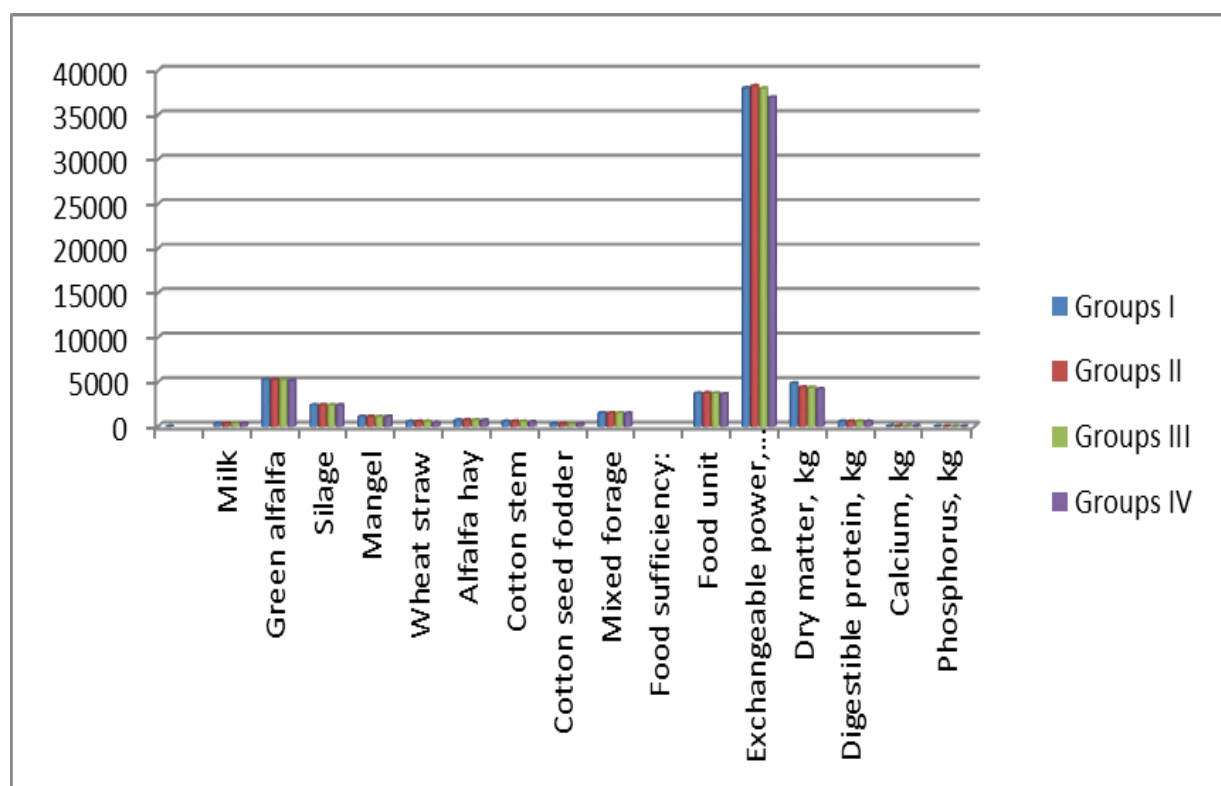
3770.2 feed units in 18-month-old bull calves of group II, 20.9 of group I; 27.1 and 124.0 kg feed

units from group III and group IV consumed a lot of feed.

For example, in animals of groups I and II, compared to their counterparts in groups III and IV, respectively: 165.0 kg (3.1 %) and 85 kg (1.6) of green alfalfa, 61 kg (2.0 %) and 50 kg (1.7 %) silage, 38.0 kg (3.0 %) and 40.0 kg (3.1 %) of mangel, 23.0 kg (3.4 %) and 43.0 kg (6.1 %) wheat straw, 29.0 kg (3.3 %) and 1.0 kg (0.1 %) alfalfa hay, 16.0 kg (2.7 %) and 34.0 kg (4.9 %) cotton stem, 1.0 kg (0.1 %) and 6.0 kg (1.6 %) of cottonseed fodder, 23.0 kg (1.2 %) and 8.0 kg (0.4 %) mixed forage they ate a lot. It should be said that the amount of nutritious substances in the

feed consumed by the purebred black-and-white bull calves of the I experimental group and the hybrid bull calves of the II experiment was higher than the nutritional value of the diet of the bull calves of the I and IV groups.

The exchangeable power in the composition of the feed consumed by the bulls of group II was: 96 Mdj (0.2 %) and 68 Mdj (0.1 %), dry matter 33.0 kg (0.6 %) and 33.1 kg (0.6 %), digestible protein 0.4 kg (0.1 %) and 6.1 kg (0.8 %), calcium 0.1 kg (0.1 %) and 0.4 kg (0.7 %), phosphorus 0.1 kg (0.1 %) and 0.2 kg (1.1 %) left behind the bull calves of groups I, III and IV.



1 diagram

It is worth noting that when creating the feeding ration for the bull calves in the experimental groups, attention was paid to their need for dry matter and carbohydrates, fats and proteins that provide metabolic energy to the animal body with food. Based on this, the level of satiety of the food consumed by the bull calves was high.

Thus, in our research, the bull calves of the Holsteinized experimental groups, the hybrid offspring obtained from the Holstein crossbreeding of the purebred Black-and-white

and Red-Desert follows consumed a lot of feed with high nutritional value during the experiment. This was observed when there was no uneaten feed left in the manger. As a result, they grew faster than their peers in other groups and showed higher meat productivity.

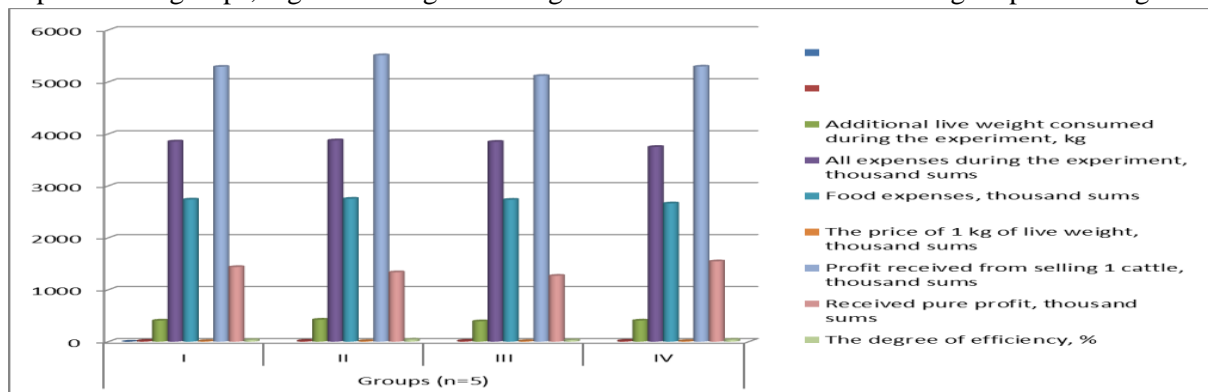
If we analyze the results of the researches genotypically, we can see that it is more effective to feed crossbred bull calves in the intensive method compared to purebred bull calves. We have calculated the economic indicators of our research in Table 2 to prove our point.

Table 2 Economic indicators of experience

Indicators	Groups (n=5)			
	I	II	III	IV
	Age, in months			
	18	18	18	18
Additional live weight consumed during the experiment, kg	407,1	424,1	393,6	407,4
All expenses during the experiment, thousand sums	3854	3876	3848	3749
Food expenses, thousand sums	2737	2752	2732	2662
The price of 1 kg of live weight, thousand sums	13	13	13	13
Profit received from selling 1 cattle, thousand sums	5292,3	5513,3	5116,8	5296,2
Received pure profit, thousand sums	1438	1337	1269	1547
The degree of efficiency, %	37,3	42,2	32,9	41,2

The analysis of the data in Table 2 below showed that economic performance was high in all experimental groups, regardless of genetic origin

and slaughter age. The bull calves in the experimental group were fed with forage grown on the farm itself during all periods of growth.



2 diagram

It should be noted that 71% of the total expenses of the animals in the experimental groups during all periods of growth fell on feed, and other expenses equaled 29%. Therefore, it indicates that the work done in the production of beef in the farm is effective. Based on this, all expenses incurred during the experiment for 18-month-old bull calves were observed in bull calves of the II group and equal to 3876 thousand sums.

According to this indicator, the difference between groups was in their favor: Group I was 220,000 sums or 5.7 percent, Group III was 280,000 sums or 7.2 percent, Group IV was 127,000 sums or 3.3 percent.

It is worth noting that the profitability level was proportionally 32.9% to 42.2% in bull calves reared up to 18 months of age in all groups. It should be noted that growing and fattening up to

18 months in all experimental groups is economically more effective.

Conclusion. Thus, care and fattening of offspring of various genotypes obtained as a result of crossbreeding cows with Holstein bulls, which have been bred for a long time in the special climatic conditions of our Republic, for meat production shows that not only from the point of view of zootechnical indicators, but also their economic efficiency is at a high level.

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