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### РЕЗЮМЕ

В данной статье представлены результаты исследовательской работы по мясной и молочной продуктивности верблюдов. В работе отражены результаты хозяйственно-племенных признаков, современное состояние верблюдоводства в Казахстане и описание по породы казахской бактриан.

### RESUME

The scientific article "Study of indicators of useful properties of Kazakh Bactrian camels" shows the research of camel meat and dairy products. The work describes the economic and biological features of camels, the current state of the camel population in Kazakhstan, the Kazakh Bactrian breed.

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### FEATURES OF FEEDING CATTLE CALVES DURING THE DAIRY PERIOD

#### Abstract

Animal husbandry in arid conditions in the south of Kazakhstan is characterized by a number of features. Here, in addition to the use of specialized animal breeds, it has its own technology, as well as the organization of production, indicators, and economic criteria, which differ significantly from agricultural production in other regions. The development of the most optimal variant of the technology of milk production in cattle breeding in captivity is directly related to the conditions of feeding calves, which determines the choice of the research topic.

**Keywords:** *animal husbandry, livestock, feeding, ration, colostrum.*

Introduction. The main task of animal husbandry in our country is to produce as many high-quality food products for the population as possible. Full-fledged feeding increases the intensity of animal growth, productivity, and reduces the cost of feed per unit of production. The technology of production of livestock products significantly exacerbates the problem of full-fledged feeding, keeping animals and obtaining high-quality products. In the current conditions of reduced agricultural production, lack of feed, their high cost, unsatisfactory veterinary and sanitary condition of livestock premises, the resistance of animals to various diseases is reduced. [1,2]

Colostrum is the first milk received from a cow after calving. It is extremely important for a newborn calf. He needs to feed about 1 kg of colostrum as quickly as possible (during the first 10-20 minutes of life). Colostrum contains a huge amount of ready-made mother-cow antibodies, which is the only and reliable way to transfer immunity to the calf to resist many pathogenic microorganisms that it will encounter during the first months of life. Since immediately after birth, the digestive tract of the calf has a high permeability, these antibodies and nutrients of colostrum are absorbed at a high rate and enter directly into the blood.[3, 4, 5]

The calf's consumption of milk (colostrum) must be carried out in small portions, it must be drunk from a teat drinker, which stimulates the production of saliva. The increase in saliva formation increases the

intensity of the production of enzymes necessary to improve the digestion of milk. Thus, a large amount of milk fed to a calf from a teat, rather than from a bucket, is more easily digested and is less likely to cause diarrheal phenomena in it. [6]

The success of growing healthy, well-developed repair young animals in the first 6 months depends on the conditions of their maintenance and feeding techniques. It is advisable to keep newborn calves near the mother for 2-3 hours, which prevents the occurrence of stress and has a beneficial effect on their health.[7, 8, 9] Then the calves are placed in individual cages in the dispensary for 10-15 days, providing a good sanitary condition with ventilation and heat. After that, the calves are placed in group machines of 10-12 heads, taking into account their further production use.

*Research methodology.* The aim of the research was to study the nutritional adaptation of young cattle under intensive rearing, as well as the efficiency and species differences in energy use, the digestibility of nutrients and minerals with different types of feeding, the concentration of energy and minerals in diets, the effect of the type of feed conditions on the bioconversion of energy and protein of feed in the growth of dairy products, hematological parameters and scar digestion in arid territories, especially in LLP “RZA- Asyl Tulik”.

To increase dairy and meat productivity, it is important to have a sufficient level of full-fledged feeding of young farm animals, based on knowledge of the growing body's needs for energy, nutrients, macro - and microelements, and vitamins. Full-fledged feeding of animals depends on the development of the feed base, which is determined by the needs of animal husbandry, the availability of feed crops, the variety of feed in the diet and their high quality, the grass should be put in feeders within an hour after cutting, and its daily rate is better to feed 3-4 times. Increasing the distribution of green mass from 2 to 4 times a day allows you to increase the milk yield of cows by 8-10 %. [10, 11]

*Scientific and economic and physiological experiments.* Full-fledged feeding of animals depends on the development of the feed base, which is determined by the needs of animal husbandry, the availability of feed crops, the variety of feed in the diet and their high quality. The structure of the diet determines the ratio of individual types or groups of feed as a percentage of the energy content. The feeds that predominate in the structure of the diet determine the type of feeding. The study of the effect of the type of feeding on animals was carried out according to the scheme shown in Table 1. Studies of the influence of feeding conditions on the productivity of young cattle. For the experiment, 3 groups of gobies, 15 heads each, with a live weight of 266.3-267.6 kg at the age of 11 - 17 months were selected using the method of analogues.

Table 1-Scheme of experiments on the study of feeding types

Group	Number, head	Age, month	Feeding features		
			Structure of the ration		Type of feeding
1	15	11- 17	Hay	Grain forage	Hay
2	15	11- 17	Haylage	Grain forage	Haylage
3	15	11- 17	Green mass	Grain forage	Green mass

The rations of experimental animals were compiled taking into account the recommendations developed by Kalashnikov A. P., the program "Feed Optima".[12] The feeding rations of experimental animals by groups are shown in Table 2. The concentration of metabolic energy in 1 kg of dry matter of the diet in 3 groups of animals was the same and amounted to 9.6-9.1 MJ in different age periods in steers. The content of protein and nutrients and minerals in the diets corresponded to the feeding standards.

Table 2-Feeding rations, by group

Indicators	Group					
	I		II		III	
	11-14 month	15-17 month	11-14 month	15- 17 month	11-14 month	15- 17 month
	Live weight, kg					
	26-35	35-45	26-35	35-45	26-35	35-45
1	2	3	4	5	6	7
Mixed grass hay, kg	9,5	14,0				
Barley haylage, kg			8,0	11,0		
Grass pasture, kg					5,5	7,0

1	2	3	4	5	6	7
Alfalfa hay, kg	2,8	2,8	2,8	2,8	2,8	2,8
Barley, kg	1,6	2,0	1,6	2,0	1,6	2,0
Salt, g	28	30	28	30	28	30
The ration contains:						
Energy Values of Feeds	6, 74	7, 89	6,53	8,12	6,6	7,89
Exchange energy, MJ	67,4	78,9	65,3	81,2	66,0	78,9
Dry matter, kg	6,63	7,8	7,12	8,7	8,25	9,81
Crude protein, g	922	1114	931	1129	886	1030
Digestible protein, g	728	826	667	797	645	743
Roughage, g	845	1156	1060	1285	976	1107
Easily digestible carbohydrates, g	232	365	266	351	169	204
Crude fat, g	246	313	253	322	237	231
Calcium, g	62,1	71,8	62,2	72,3	61,0	68,3
Phosphorus, g	20,5	21,0	27,44	34,1	21,4	25,2
Magnesium, g	10,6	13,2	15,4	19,4	10,8	11,4
Sulfur, g	13,35	16,56	15,8	19,46	16,4	19,4
Iron, mg	401	923	543	659	834	998
Copper, mg	19,7	32,5	26,8	33,3	31,6	38
Zinc, mg	109,4	185,3	114,1	143,7	276	346
Cobalt, mg	2,6	3,6	1,5	1,9	1,7	2,1
Manganese, mg	234,5	469,8	220,5	292	225	261
Iodine, mg	1,58	1,28	1,43	1,82	1,1	1,04
Carotene, mg	409	403,7	260	311	211	222
Vitamin D, ME	471	509	468	521	830	973

Steppe hay in the diet of the I group of animals occupied 52.1% of the calves in terms of nutrition. Therefore, the I group of animals was on the hay type of feeding. In animals of group II, mixed-grass haylage in the diet in terms of energy nutrition in the structure of the diet occupied 52.8 % in gobies, that is, these animals had a haylage type of feeding. In the third group of steers, green feed in the diet was 51.5% of the metabolic energy of sheep, so this group of animals was on the green type of feeding. In the second series of studies, to study the effect of energy saturation of the diet on the palatability, morphological and biochemical components of blood, growth, development, productivity and economic efficiency, scientific and economic experiments were conducted on the Holstein-motley breed.

Table 3 - Structure of animal diets by group, %

Group	Feed	Calf
I	Steppe hay	52,1
	Alfalfa hay	22,2
	Grain forage with a complex of mineral additives	26,7
II	Steppe hay	52,8
	Alfalfa hay	21,3
	Grain forage with a complex of mineral additives	25,9
III	Steppe hay	51,5
	Alfalfa hay	21,9
	Grain forage with a complex of mineral additives	26,6

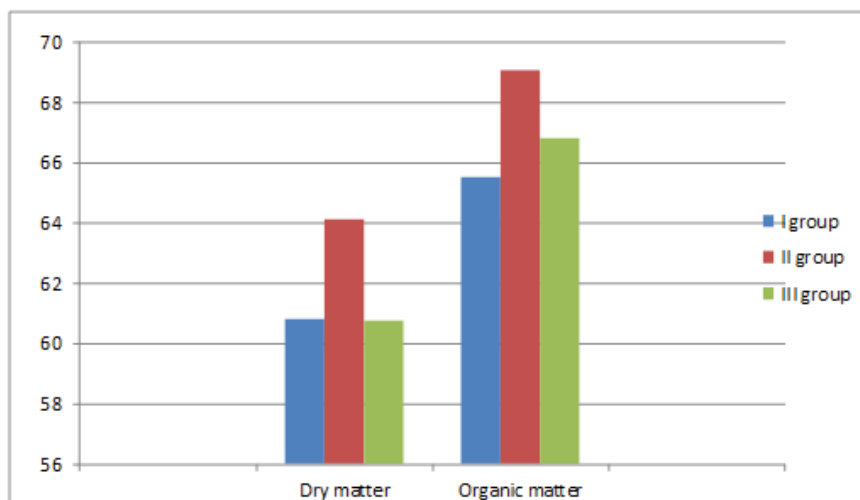


Figure 1- The digestibility of dry matter and organic matter.

The digestibility of dry matter in group I, which received a hay diet, was lower than in group II steers, by 3.33 %, and the assimilation of organic matter was absorbed-by 3.54 %. Also, group II calves absorbed dry matter by 3.36% better compared to group III, and organic matter by 2.24%, respectively. Organic matter was better digested by the steers of group III, which received green feed, by 1.30% compared to group I. The gobies in all groups successfully absorbed the feed nutrients, and the digestibility coefficients of crude protein, fat, fiber, and nitrogen-free extractives (NFE) were positive. Bulls at 16 months of age absorbed raw fiber by 51-54 %, digested raw fat by 47-51 %. The steers of group II, which received a haylage diet, had a better digestibility of all nutrients compared to the animals of groups I and III.

*Conclusion.* Animal husbandry in the conditions of arid territories is characterized by a number of features. Here, in addition to the use of specialized animal breeds, there are their own: technology, organization of production, indicators, economic criteria that differ significantly from agricultural production in other regions.

One of the important factors of full-fledged feeding and high productivity of animals is a properly selected and justified type of feeding. Studies have shown that the most common types of feeding in the arid zone are hay, haylage and green feeding, which have different effects on the absorption of nutrients by ruminants.

Calves should be taught to eat hay from the age of 10 days. It is advisable to feed well-leaved cereal and legume hay. The norm of hay for calves is gradually increased and brought to 3 months of age to 1.5 kg, and to 6 months - to 3.0 kg. Simultaneously with the hay dacha, mineral top dressing, salt and chalk are introduced into the calves ' ration. Feeding of concentrated feed to calves begins from 10-15 days. As the first top dressing, give well-sifted oatmeal in the amount of 100-150 g per head per day. Then calves are gradually accustomed to the consumption of compound feeds.

The digestibility of dry matter in the second group of calves receiving the haylage diet was 3.33% higher than in the first group of calves receiving the haylage type of feeding, and 3.36 % better than in the third group. Calves of group II had better digestibility of all nutrients compared to animals of groups I and III.

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### **РЕЗЮМЕ**

Животноводство в засушливых условиях юга Казахстана отличается рядом особенностей. Здесь, помимо использования специализированных пород животных, есть своя технология, а также организация производства, показатели и экономические критерии, которые существенно отличаются от сельскохозяйственного производства в других регионах. Разработка наиболее оптимального варианта технологии производства молока при животноводстве в неволе напрямую связана с условиями кормления телят, что определяет выбор темы исследования.

### **ТҮЙІН**

Қазақстанның оңтүстігіндегі шөлдік климаттағы мал шаруашылығы бірқатар ерекшеліктермен сипатталады. Мұнда жануарлардың мамандандырылған тұқымдарын қолданумен қатар, басқа аймақтардағы ауылшаруашылық өндірісінен айтарлықтай ерекшеленетін өзіндік технология, сонымен қатар өндірісті ұйымдастыру, көрсеткіштер мен экономикалық критерийлер бар. Шөлдік аймақтағы ірі қара мал шаруашылығында сүт өндіру технологиясының дамуы бұзауларды тамақтандыру жағдайымен тікелей байланысты.