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Hematology of Kids of Different Genotypes Indicators

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Abstract: *The article provides data on the study of the clinical and biochemical parameters of the blood of goats of the local breed of Uzbekistan and their crosses of the 1st and 2nd generations, obtained from crossing them with the Russian white breed. It was found that crossbred kids surpassed their peers of the local breed in the number of erythrocytes, leukocytes and platelets, and the amount of hemoglobin was higher in hybrids of the 1st generation by 3.6 g / l (3.3%); II generation - by 4.51 g / l (4.0%) in comparison with similar indicators of local kids. Morphobiochemical blood parameters of kids in all experimental groups were within physiological norms.*

Keywords: *goats, hybrid kids, local, blood, leukocytes, erythrocytes, platelets, cholesterol, urea*

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Introduction

Blood as a fluid tissue ensures the stability of the body's internal environment. Adequate reactions occur in the blood of an animal in response to various changes that occur during its life, and they are considered as criteria for assessing the state of the organism [2,3.].

The normal life activity of an animal, its productivity and ability to reproduce depends on the composition of the blood and the functioning of the vascular structure. Therefore, it is important to take into account hematological factors when evaluating the internal performance of an animal. In addition, the composition of the blood varies depending on the sex, age, physiological condition of the animal (pregnancy, lactation, strong muscle and physical activity), as well as the seasons and the type of feeding. In this regard, there is an integral relationship between the constitutional type and productivity of the animal and the hematological parameters of the blood [4].

Almost half (45%) of the blood is made up of shaped elements that perform important functions of the blood. Erythrocytes are the most abundant and highly specialized fraction of cells in the blood, with a population of 1 million in the blood of goats. cube. in the amount of 13-17 mln. grains. Its function is to transport oxygen from the lungs to organs and tissues and to remove carbon dioxide from the body through the lungs, transport nutrients, maintain a uniform blood environment (pH), and participate in maintaining the body's immunity. Erythrocytes live for 120-160 days, containing 200-300 million hemoglobin molecules, which make up 90% of the dry matter of erythrocytes. Hemoglobin is a complex chemical compound that contains iron-containing gem and protein-globin. 100 ml of goat's blood contains an average of 10.7 g of hemoglobin [2].

Leukocytes - white blood cells that perform a protective function in the body. They have the property of actively moving, entering the intercellular space and neutralizing foreign substances there, swallowing (phagocytosis).

Platelets - Blood platelets are a component of blood in mammals without nuclei, of various shapes and sizes, which ensures the blood's ability to coagulate.

Research source and methodology

The research was conducted at the farm "Naslli kumush turka" in Syrdarya district of Syrdarya region. In this farm 3 groups of goats of different genotypes were formed, group I included local, group II - first-generation hybrids from white goats, and third-group - second-generation hybrids. In order to study the morphobiochemical properties of the blood, blood was drawn from the yoke vein in the fall when the kids were 8 months old. The number of shaped elements in the blood was determined by conductometric method (G. Kulter), the amount of hemoglobin was determined by photometric method, the biochemical parameters were determined by automatic analyzer ladio-200 (China).

Research results. The morphological and biochemical parameters of the blood of goats belonging to different genotypes in the experiment were studied, taking into account the fact that various life processes in the body are reflected in the morphological and biochemical parameters of blood, its important role in changes in the growing organism. These data are presented in Table 1.

The results of the analysis of morphological parameters of the blood show that the amount of leukocytes in it was at a high level of physiological norm in all genotypes of goats, which ensured high survival of animals in pasture conditions. There are no reliable level differences in terms of this indicator across different genotypes. The amount of erythrocytes in the blood is also at the level of physiological norm in all groups of kids, the number of kids in 1 ml of blood is 16.2-17.9 million. forms a grain. It was found that there were differences between the kids of different genotypes in terms of the amount of hemoglobin in the blood. Its content in F1 hybrids was 3.67g / l or 3.3% higher than that of the native breed, and in F2 hybrids it was 4.51g / l or 4.0%, respectively. The amount of platelets in the blood in a volume of 1 milliliter was 3.09 - 3.36 thousand units, which was at the level of physiological norm in kids of all genotypes.

Table 1. Clinical and biochemical parameters of blood of goats of different genotypes($\bar{X}\pm m_x$) (n=3)

Indicators	GROUPS			
	local	F_1 duragay	F_2 duragay	The norm
Leukocytes,109/л	11,50 ±3,19	12,26±1,86	12,92±1,97	4-13
Erythrocytes,1012/л	16,20±3,28	17,03±3,19	17,90±3,14	12-18
Hemoglobin, g / l	110,61±6,32	114,28±6,90	115,12±4,87	80-120
Platelets, 109/л	3,36±0,27	3,09±0,28	3,21±0,31	3-6
Total protein, г/л	63,32±4,87	68,0±5,20	69,46±4,69	61-75
Sugar, mmol / l	3,26±0,60	3,51±0,41	3,58±0,48	2,7-4,2
Cholesterol, mmol / l	1,47±0,38	1,51±0.32	1,49±0,34	1,7-3,5
Urea, mmol / l	5,91±0,86	4,67±0,71	4,58±0,63	4,5 – 9,2

The biochemical composition of the blood is an indication of how the animal's organs and tissues function. The results of the analysis show that there are no reliable differences between the biochemical parameters of the blood of goats of different genotypes. Almost all biochemical parameters of the blood were at the level of physiological norms in all groups of goats. Cholesterol and urea levels were at the lowest levels of the norm. The amount of cholesterol in the local goats is

0.23 mmol / l below the lower limit of the norm. was less than 0.19 mmol / l in F1 hybrids and 0.21 mmol / l in F2 hybrids.

Conclusion. In the experiment, it was found that the differences between the groups on the hematological and biochemical parameters of the blood of goats of different genotypes were not observed at a reliable level, but at the level of physiological norms. The fact that some indicators are within the upper limits of the physiological norm indicates that the physiological and biochemical processes in them are accelerated. The fact that the amount of urea in the blood is within the lowest limits indicates the effective assimilation of nitrogen in the diet by animals.

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