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MORPHOLOGICAL AND BIOCHEMICAL INDICES OF BLOOD OF SEMI-FINE-WOOL SHEEP

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Abstract: The article presents the results of the study of morphological and biochemical indices of blood of ewes of the 1st and 2nd grading classes bred in the West Uzbekistan region. It was established that the blood values indicate that larger meat and wool ewes of the desired type and average live weight of the production group of the 2nd class differed at the morphological level. According to the structure of the morphological composition of the blood, larger animals were characterized by slightly higher indices, which indicates a higher level of energy and protein metabolism in their body.

Keywords: meat and wool sheep breeding, meat and wool, hematological and bio-chemical indicators.

INTRODUCTION

Sheep breeding is a traditional branch of livestock farming in the West Uzbekistan region. Uzbek fat-tailed sheep have been bred here for a long time, on the basis of which the Edilbaev breed was created by folk selection - the best offspring of the Uzbek fat-tailed sheep. Unlike many other farm animals, sheep give the largest amount of diverse products, which is provided by a large number of sheep breeds.

MATERIALS AND METHODS

The efficiency of sheep breeding directly depends on increasing the productivity of animals and improving the quality of the products obtained from them, which in turn is achieved not only by traditional selection methods, but also by conducting a genetic assessment of the selected traits and establishing their relationship [1].

The object of the study were 200 heads of semi-fine-wool meat-and-wool ewes of the 1st and 2nd classes (100 heads of each) with crossbred wool aged 3.5 years, bred in the Saltanat farm in the West Uzbekistan region. The blood of the ewes served as the material for the study. The experimental ewes were kept in the same flock under the same feeding and housing conditions. The meat-and-wool ewes of the 1st class used in the experiment were characterized by an average live weight of 53.5 kg. The shear of washed wool in the original was 4.0 kg, with a washed fiber yield of 56.7%, with a fineness of 56 quality, or 28.0 μm. The average length of wool of the first class ewes was 12.5 cm, which meets the requirements of the breed standard.

RESULTS AND DISCUSSION

Along with the productive indicators, the morphological and biochemical data of the blood of meat-and-wool ewes were studied in order to use the obtained materials in the process of improving the bred animals [2]. The use of blood indicators to assess the interior of animals

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is associated with their biological significance for the body. It is known that erythrocytes and the coloring substance contained in them - hemoglobin - play an extremely important role in the processes of respiration and oxidation. The more erythrocytes and hemoglobin in the blood, the more oxygen can be absorbed and the more intensive the metabolism in the body will be. In this regard, there was a need to study the morphological and biochemical indicators of blood to characterize the interior of meat-and-wool sheep bred in the Western Uzbekistan region (Table 1).

Table 1. Hematological parameters of semi-fine wool queens (X ± Sx)

Indicator	Ewes	
	average live weight	large live weight
Leukocytes, thousands in mm3	7,60 ± 0,47	7,72 ± 0,35
Erythrocytes, millions in mm3	8,51 ± 0,25	8,70 ± 0,42
Hemoglobin, g %	9,53 ± 0,52	9,71 ± 0,40
Ca, mg %	11,14 ± 0,13	11,38 ± 0,15
P, mg %	6,97 ± 0,08	7,00 ± 0,10
Y.R., mg %	504 ± 30,51	513 ± 29,15
Total protein, g %	6,92± 0,09	7,5 ± 0,11
Albumins	2,60 ± 0,04	2,51 ± 0,55
Globulins: α ß γ1 γ2	0,51 ± 0,03 1,64 ± 0,01 1,57 ± 0,02 0,60 ± 0,009	1,34 ± 0,02 1,62 ± 0,03 1,45 ± 0,03 0,66 ± 0,007

The studies have established that no specific metabolic disorders were observed in the sheep according to all the hematological tests studied, and the morphological and biochemical indices were within the physiological norm. At the same time, some differences were noted in individual morphological and biochemical indices of the blood in the compared groups of ewes. Thus, ewes with a large live weight exceeded ewes with an average live weight in the content of erythrocytes in the blood by 0.19 million per mm3, or 2.2%. Similarly, in terms of hemoglobin, a superiority of large ewes over average ones was noted by 0.18 g/%, or 1.9%. It should be noted that ewes characterized by a large size and more intensive growth had a greater number of erythrocytes and a high concentration of hemoglobin.

In the life of animals, important indicators characterizing the intensity of metabolic processes in the body are the content of total calcium and inorganic phosphorus in the blood serum. The presence of calcium and phosphorus within the normal range indicates the absence of violations in their content. An important indicator characterizing the intensity of metabolic processes in the body is the reserve alkalinity, caused by a certain reserve of alkali-reacting substances in the blood. Reserve alkalinity can change depending on feeding, living conditions, and the health of the animal. The results of the study show that in the sows of both groups, the reserve alkalinity indicator, which creates conditions in the body for

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metabolic processes, was within the physiological norm with a slight advantage of sows with a large live weight.

CONCLUSION

All the data we obtained on the morphological and biochemical indices of the blood of sheep meat-and-wool sows were within the physiological norm, i.e. within the limits in which various quantitative shifts can occur without entailing qualitative changes in the physiological state of the organism. According to the structure of the morphological composition of the blood, larger animals were characterized by somewhat higher indices, which indicates a higher level of their energy and protein metabolism.

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