

## HEMATOLOGICAL INDICATORS OF THE BLOOD OF CHILDREN AND LAMBS AT DISPENSATION

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### **Annotation**

This article describes changes in red blood cells, hemoglobin, total protein, glucose, ketone bodies, alkaline reserve, hematocrit, and blood of lambs and finishing lambs.

**Kalit so‘zlar.** Qonda eritrotsitlar va leykotsitlar soni (Goryayev usuli), Glyukoza, (Glyukometr), Keton tanachalari,(Ketometr), gemoglobin (Sali usuli), umumiy oqsil (Refraktometrli usul) va ishqoriy zahira (Rayevskiy usuli) ushbu kursatkichlar miqdorlari aniqlandi.

**Key words.** The number of erythrocytes and leukocytes in the blood (Goryaev method), glucose (Glucometer), ketone bodies (Ketometer), hemoglobin (Sali method), total protein (Refractometer method) and alkaline reserve (Raevsky method) were determined.

### **Enter**

As a result of dyspepsia, lambs suffer from diarrhea, loss of appetite, rapid weight loss, and the sick animal dies quickly. Therefore, rapid treatment of the disease is of great importance. Effective treatment measures against lamb dyspepsia in the conditions of our republic have not been developed enough.

### **Relevance of the topic**

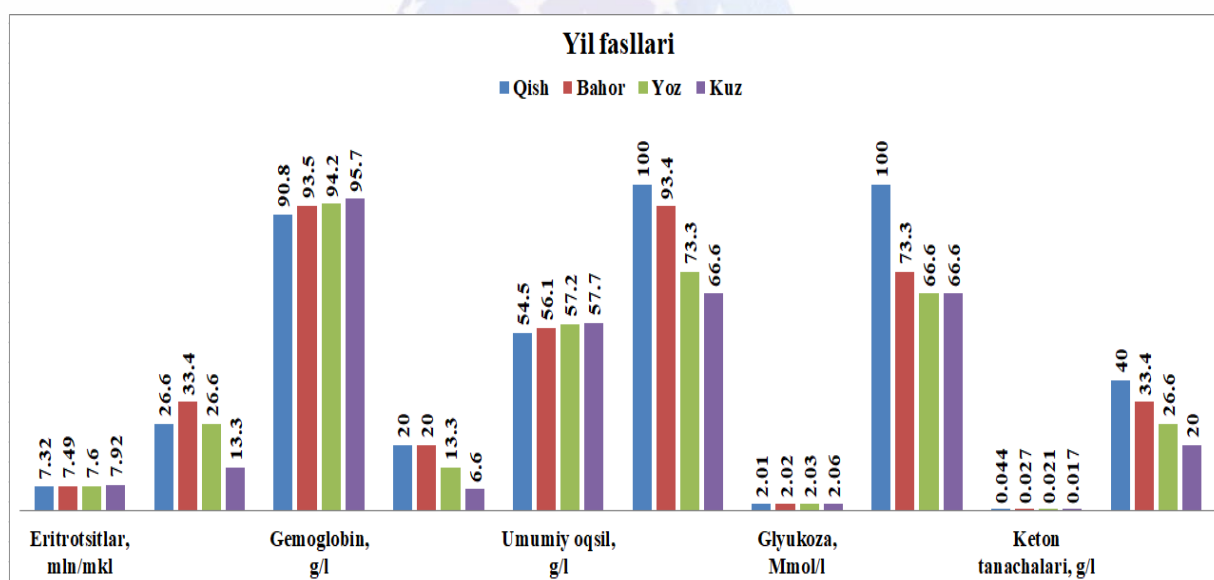
Decree No. PQ-4576 of the President of the Republic of Uzbekistan dated January 29, 2020 "On additional measures of state support for the livestock sector" and "Measures for further development of livestock breeding and strengthening of the feed base" dated February 8, 2022 Dyspepsia, which is common among lambs, is one of the biggest obstacles to the stable development of the sheep industry in animal husbandry, especially in the fulfillment of the priority tasks defined in the resolutions PQ-121.

### **Material and methods**

During 2021-2024, "Olga" LLC specializing in cattle breeding in Nurabad district of Samarkand region, sheep farm belonging to "Babur Murodalievich JK" in Qamashi district of Kashkadarya region, and "Kum Kamar" farm in Boysun district of Surkhandarya region will be experimented during 2021-2024. It was conducted in the conditions of the zoo and the

vivarium of the Samarkand State Veterinary Medicine, Animal Husbandry and Biotechnology University.

So, the results of dispensation showed that metabolic disorders in Karakol sovliks appear mainly in winter and spring months. Among such disorders, mainly disorders of protein-carbohydrate metabolism take priority, and with the deepening of the disease, such disorders become more pronounced. During protein-carbohydrate metabolism disorders, weight loss, tachycardia, shortness of breath, hypo and atony of the pre-gastric sections, leucocha, yellowing of the mucous membranes, enlargement and pain in the liver area, hypoproteinemia, hypoglycemia, acidosis, hypouricemia. Symptoms characteristic of liver functional disorders were also observed for carbohydrate metabolism disorders.



**1 - picture. Seasonal dynamics of morphological and biochemical parameters of the blood of cold animals during dispensation**

Dispanserlashda Seasonal dynamics of morphological and biochemical parameters of the blood of cold-blooded animals (Fig. 1) showed specific changes. In particular, although the highest number of erythrocytes in the blood was observed in autumn (7.92 million/ $\mu$ l) and the lowest in winter (7.32 million/ $\mu$ l), the number of animals with a low number of erythrocytes in their blood was the highest. (33.4%) was observed in spring and the lowest (13.3%) in autumn. Although the highest amount of hemoglobin in blood was observed in autumn (95.7 g/l) and the lowest in winter (90.8 g/l), the number of animals with low hemoglobin in blood was the highest (20%) was observed in winter and the lowest (6.6%) in autumn.

The highest amount of total protein in blood was observed in autumn (57.7 g/l) and the lowest in winter (54.5 g/l). (100%) was observed in winter and the lowest (66.6%) in autumn.

Although the highest amount of blood glucose was observed in autumn (2.06 mmol/l) and the lowest in winter (2.01 mmol/l), the number of animals with low blood glucose was the highest. (100 %) was observed in winter and the lowest (66.6 %) in autumn.

Although the highest amount of ketone bodies in blood was observed in winter (0.044 g/l) and the lowest amount was observed in autumn (0.011 g/l), the number of animals with high blood ketone bodies (40 %) was observed in winter and the lowest (20%) in autumn.

Therefore, the data of seasonal dynamics indicate that if the amount of hemoglobin, total protein and glucose in the blood of cold-blooded animals increases uniformly from winter to spring, summer and autumn, the amount of ketone bodies, on the contrary, increases reliably (P 0.001).

It was noted that changes in the amount of erythrocytes show unstable changes according to the seasons of the year.

So, the results of dispensation showed that metabolic disorders in Karakol sovliks appear mainly in winter and spring months. Among such disorders, mainly disorders of protein-carbohydrate metabolism take priority, and with the deepening of the disease, such disorders become more pronounced. During disorders of protein-carbohydrate metabolism, weight loss, tachycardia, shortness of breath, hypo and atony of the pre-gastric sections, leucocha, yellowing of the mucous membranes, enlargement of the liver area and pain, hypoproteinemia, hypoglycemia, acidosis, hypouricemia. Symptoms characteristic of liver functional disorders were also observed for carbohydrate metabolism disorders.

It was found that such signs develop mostly in secret in the fall, and their clinical manifestation occurs in the winter and spring months, especially from the second half of the cold season.



**Determination of hemoglobin in the blood of lambs**



**Determination of total protein in the blood of lambs**

**1- table. Results of physico-chemical and morpho-biochemical examination of blood samples taken from sick lambs**

№	Indicator	Duration of illness, hours			
		1-12	12-24	24-36	36-72
1	Erythrocytes, million/ $\mu$ l	6,30 $\pm$ 0,10	6,50 $\pm$ 0,10	6,90 $\pm$ 0,10	6,5 $\pm$ 0,10
2	Hemoglobin, g/l	98,8 $\pm$ 0,12	92,2 $\pm$ 0,9	80,4 $\pm$ 0,42	68,8 $\pm$ 0,11
3	Total protein, g/l	65,6 $\pm$ 0,11	66,6 $\pm$ 0,2	68,8 $\pm$ 0,7	68,2 $\pm$ 0,9
4	Glucose, mmol/l	2,3 $\pm$ 0,08	2,1 $\pm$ 0,07	1,83 $\pm$ 0,05	1,60 $\pm$ 0,04
5	Hematocrit, %	37,8	38,5	40,4	48,8
6	pH	7,3	7,1	7,0	6,5
7	Alkali. reserve, mq/l	5,88 $\pm$ 0,14	5,20 $\pm$ 0,12	4,10 $\pm$ 0,16	3,22 $\pm$ 0,10
8	IgG, mg/ml	12,2	10,5	10,1	7,6

As can be seen from the table, the number of erythrocytes and the amount of total protein in the blood during dyspepsia did not undergo significant changes during the course of the disease. Hemoglobin (from 98.8 $\pm$ 0.12 g/l at the beginning of the experiment to 68.8 $\pm$ 0.11 g/l by the end), glucose (from 2.3 $\pm$ 0.08 mmol/l at the beginning of the experiment to 1,60 $\pm$ 0.04 mmol/l), pH indicator (from 7.3 at the beginning of the experiment to 6.5 at the end), Alkaline reserve (from 5.88 $\pm$ 0.14 at the beginning of the experiment to 3,22 $\pm$ 0.10 meq/l), the amount of IgG (from 12.2 at the beginning of the experiment to 7.6 mg/ml by the end of the experiment) decreased evenly, and the hematocrit index increased regularly (the average at the beginning of the disease was 37 from 85% to 48.8% by the end of it) was noted to increase. Based on the results of the research aimed at determining the changes in the blood during dyspepsia of lambs, it can be concluded that during dyspepsia, hemoglobin in the blood of sick lambs is up to 68.8 $\pm$ 0.11 g/l, glucose is 1.60 $\pm$ 0.04 mmol /l, pH up to 6.5, alkaline reserve up to 3.22 $\pm$ 0.10 meq/l, IgG decrease up to 7.6 mg/ml, hematocrit increase up to 48.8% observed. The dynamics of blood changes in sick lambs is more clearly expressed in Figure 3.4.1. In this case, hemoglobin, glucose, pH, alkaline reserve and IgG decreased reliably ( $P \leq 0.001$ ) in the pathogenesis of the disease, and the hematocrit index increased up to 48.8% (37.5-40). Such changes observed in the blood according to morphological and biochemical indicators can be explained by diarrhea, dehydration, toxemia and metabolic disorders.

### Summary:

1. Morphological and biochemical indicators of the blood of cold patients at the dispensation were given according to the seasons. The number of erythrocytes, hemoglobin and ketone bodies were partially changed, but they were close to the standard indicators. Total protein and glucose values were below the norm.

2. During dyspepsia, hemoglobin in the blood of sick lambs is up to  $68.8 \pm 0.11$  g/l, glucose is up to  $1.60 \pm 0.04$  mmol/l, pH is up to 6.5, alkaline reserve is  $3.22 \pm 0$  , up to 10 meq/l, IgG decreases to 7.6 mg/ml, and hematocrit increases to 48.8%.

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