INFLUENCE OF ADDING IODIZED SUPPLY SALT TO THE FEED ON THE HEMATOLOGICAL INDICATORS OF KORAKOL LAMB

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Annotation

This article presents the hematological parameters of Sur Karakol lambs, which were fed in mountain conditions during a period of nutrient deficiency, as well as a positive change in the number of leukocytes in their blood and their viability with the additional introduction of feed enriched with iodized table salt. provided.

Key words: Karakol lambs, red blood cells, hemoglobin, leukocytes, iodine, iodine potassium, table salt, viability

According to many scientists, damage to certain organs in animals, including the immune system, is directly related to environmental pollution. Additionally, signs of mineral imbalance and metabolic disorders, such as reduced total protein, erythrocytes, and leukocyte levels, have been observed under conditions of environmental degradation and unfavorable environmental conditions. These processes result in changes in the consumption of nutrients, decreased productivity, disease resistance, and vitality [1,6].

The role of microelements is also crucial in the development of karakul sheep farming. These include microelements that are part of hormones, enzymes, and some vitamins, or act as biological catalysts that activate them. Biologically active substances and macro-microelements positively affect animal growth, development, productivity, vitality, reproductive capacity, and resistance. One of the microelements with high biological activity is iodine. It participates in the process

of enzyme formation, supports the body's protective reactions, increases vitality, accelerates the formation of new cells, positively affects fertilization and fetal development, and accelerates animal growth [7,8].

Literature review: According to available data, iodine deficiency in sheep is characterized by a decrease in the body's resistance. Sick sheep exhibit distorted body proportions, retarded growth, enlarged joints, bent legs, lordosis, rough and patchy skin, and incompletely developed muscles. Often, when examining a carcass, an enlarged thyroid gland, an uneven surface, and the presence of 3-5 mm cysts filled with viscous colloidal fluid upon incision are observed [1].

In his research, B.M. Eshburiyev divides the areas in the Republic of Uzbekistan where iodine deficiency is observed into the following groups: a) areas with very severe iodine deficiency - districts of the Ferghana Valley; b) areas with severe iodine deficiency - districts of Samarkand, Sirdarya, Surkhandarya, Xorazm regions and the Republic of Karakalpakstan; c) areas with noticeable iodine deficiency - districts of Tashkent and Bukhara regions [2].

According to available data, in the conditions of Uzbekistan, the deficiency of iodine can be caused by an excess of calcium and magnesium in soil, water, and plants, hich hinders iodine absorption, as well as a deficiency of cobalt, copper, manganese, and zinc [2]. Under normal conditions, the thyroid gland should weigh 8 g per 100 kg of body weight in sheep and 7 g in calves [3]. Some researchers note that in areas with biochemical iodine deficiency, productivity decreases, which can often be attributed to metabolic disorders and a decrease in the body's immunity [4].

I.P. Kondrahin emphasizes that iodine deficiency leads to retarded growth in young animals and goiter in adult cattle. The average daily requirement of iodine for animals is 0.4 mg per 1 kg of dry matter in feed. Iodine is absorbed in the form of iodides in the small intestine and is primarily excreted through the kidneys (80%). Small amounts are also excreted through the intestines, skin, lungs, and mammary glands. It is also important to consider the endemic characteristics of the

biogeochemical area, the results of palpation of the thyroid gland, and the specific changes in the body's physique when diagnosing iodine deficiency [5].

Research Methodology

The experiments were conducted during the summer season of 2023 in the mountainous and foothill ecological areas of Nurobod district, Samarkand region. The research objects were blood samples from black karakul lambs and ewes. Leukocyte counts were determined using a hemocytometer.

We used the titrimetric method for iodine determination, recommended by the Ministry of Health of the Russian Federation, in our experiments. The analysis is based on titration of iodine released during the interaction of potassium iodide and potassium iodate, titrated with 0.005 M Na2S2O3, with starch used as an indicator.

Analysis and Results

Improving the health of karakul lambs is crucial for maintaining and increasing the number of livestock, ensuring the population's supply of meat, high-quality leather, and wool products, and increasing production for the garment and footwear industries. The prospects for the development of sheep breeding include improving production technology, scientifically sound feeding methods, and ensuring protection from various diseases. Therefore, in order to improve the health and productivity of karakul lambs, we added iodized table salt to their feed. The eukocyte count in lamb blood and general blood analysis were determined and analyzed using a hemocytometer, leading to the following results: We conducted our experiments on the impact of the J element on the vitality and fertility of karakul lambs at the "Najmiddin Salimovich Karimov" farm in Nurobod district, Samarkand region.

Table 1

Relationship of Hematologic Indicators with Vitality in Ewes under the Influence of J Element (M ± m; n = 10)

Indicator	Groups							
	I (Control)		II-minus variant		III-Average variant		IV-Plyus variant	
Leukocyte count (x 10^9 /l)	Tajribaning boshlanishi 1	Tajribaning tugashi 30	Tajribaning boshlanishi 1	Tajribaning tugashi 30	Tajribaning boshlanishi 1	Tajribaning tugashi 30	Tajribaning boshlanishi 1	Tajribaning tugashi 30
	6,3± 0,10	6,49± 0,09	6,20± 0,10	6,76± 0,06	6,34± 0,13	6,81± 0,10	6,44± 0,15	6,82± 0,08

: * –R <0.05; ** – P <0.01 ** – P <0.02

The table data reveals that while the leukocyte count in the control group increased by only 0.19 thousand, representing a 3% increase, the experimental lambs in groups II, III, and IV, whose diet included iodized salt, demonstrated significantly higher counts. Specifically, group II showed a 0.56 thousand increase, representing a 9% rise; group III showed a 0.47 thousand increase, a 7.4% rise; and group IV exhibited an increase of 0.38 thousand, or 5.9%.

CONCLUSION

The data presented above clearly shows that when karakul ewes are given supplemental feed, including iodized table salt added to their fodder, water, and compound feed, the leukocyte count increases. The average increase in leukocytes in the experimental group was around 0.47 thousand, representing a 7.4% rise compared to the control group. It's evident that the increase in leukocyte count in the experimental lambs, surpassing the control group, is due to the influence of the J element (iodine). Furthermore, we observe a higher level of vitality and disease resistance in the experimental group, both in the plus and average variants.

Therefore, to prevent iodine deficiency, iodized table salt is added to the animals' feed at a rate of 0.5% (25g of potassium iodide per ton of table salt). To iodize 100 kg of table salt, 2.5 g of potassium iodide and 100 g of baking soda are required. Iodized table salt can be freely given to animals.

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