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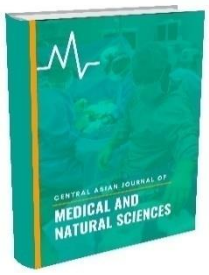

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# The Influence of Biophysical Methods on the Digestive Process of Lambs

**1. Ma'ruf Nasimjonovich Axrorov**

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[1] Assistant, Department of Physics, Biophysics and Medical Physics, Samarkand State Medical Institute, Samarkand, Uzbekistan

**Abstract**: The article discusses the positive solution to the problem of providing the market with ecologically clean livestock products by prolonging the life of small horned animals bred by farms engaged in sheep and goat breeding in environmentally unfavourable conditions, increasing the quantity and improving the quality of meat products.

**Keywords:** Biophysical method, laser, animals, analogue lambs, lamb viability, diaphragm, experimental group, productivity, weight, low intensity, digestion, forage, nutrition, large belly, chewing gum, supplemental feed, protein.

## Introduction

In our country, on average, 50%: 50% of ewes and male lambs and goats are obtained from ewes and goats bred in mountain and foothill pastures. However, in recent years, due to the abandonment of breeding, the number of male lambs that can be slaughtered to obtain quality karakul skins has decreased, and the number of lambs that cannot be sold when loved has increased. Feeding such lambs in separate herds at the age of 4.5-5.0 months, to some extent, causes stress in the lambs and adversely affects their growth and development [1].

Increased productivity of animals occurs due to the body's resistance to various adverse factors, and primarily due to the normalization and activation of anabolic processes in animals [2,3,4,9].

## Materials and methods

In the developed countries of the world, the use of laser technology is very effective in order to implement methods that generate genetically high productivity at different stages of life of industrially bred livestock [10].

The advantage of biophysical methods over other biological methods is that the effect shown, especially on low-intensity lasers with an intensity not exceeding 10 W / cm2, is called low-intensity lasers and is mainly used for therapeutic purposes. Laser radiation has many positive effects on the animal's body, including the ability to fight disease and increase productivity [7].

In Uzbekistan, no studies have been conducted to study the effects of biophysical methods on the processes of lamb consumption, digestion and assimilation of nutrients by lambs as a result of stresses

caused by unfavourable nutritional and climatic factors. Therefore, the solution to the problem of increasing the productivity of abandoned lambs while maintaining their health and vitality, enriching the market with environmentally friendly, high-quality competitive lamb meat has become one of the most important areas of our research in today's market economy [7].

**Results**

In each of the lambs exposed to low-intensity laser radiation and not shown, 2 groups of 15 heads (control and experiment) were formed, and the lambs of the experimental group underwent laser irradiation twice a day for 1.5 minutes with low-intensity laser radiation. differed from the control group in that the field was affected. The technological processes of implementation of all other experiments were carried out in the same way [3].

In particular, lambs in both groups were analogous (same) in terms of the time of birth, live weight, colour and sex, and feeding and care processes were carried out in accordance with the recommended method. In addition to pasture feed, each of the two groups of lambs in the experiment was fed an average of 200 grams of barley groats and 400 grams of various herb pies after returning from pasture in the evening. If barley groats were consumed in full during the feeding, 80-95 grams of residue remained in the manure in manure, while in the experimental group the figure was 43-48 grams, which means that the experimental group consumed 50% more hay and hay [6].

During the accounting period of equilibrium experiments, experiments were continued in 5 lambs in each group, and microbiological fluids obtained from the large intestine by digestion of substances were analyzed by biochemical, biophysical methods. For this purpose, samples were taken from the large abdomen of lambs using a food probe, and the active medium of the large abdominal fluid, which enhances the appetite of small horned animals and plays an important role in the consumption of nutrients by animals, and the amount and proportions of bacteria and infusions activating digestion.

The active acidity of the large abdominal fluid is in the LPU-01 potentiometer, the total amount of volatile fatty acids (VAC) in the Markgamm apparatus, the fractions of bile acids (vinegar, propionate and oil) in the gas + liquid chromatography, and the total and protein nitrogen according to Keldal. determined by nitrogen separation. Prior to the start of the inspections, the selected lambs were tested by the veterinarians after receiving conclusions about the health of the lambs and an analysis of the findings on the results was carried out. After the lambs were separated from their mothers, the live weight of the lambs at the start of the experiment (in September) averaged 21.7 ± 0.96 kg. At the same time, 3 lambs from each group were selected and two indicator methods were used to determine the number of nutrients consumed by the experimental lambs from the pasture feed, the sensitivity value. In order to achieve the planned goal in the experiments, we used chromium dioxide as an external inert substance and nitrogen as an internal indicator. To determine the number of nutrients and excreted excretion consumed by the lambs overnight, experimental lambs were given 5 g of chromium oxide daily in the morning and evening (from 2.5 g). Using chromium dioxide, we used the following formula to determine the number of sensory substances consumed in the faeces excreted by the experimental animals:

$$x = (A * B)/T$$

here; Non-degradation coefficient of chromium oxide in the A-digestive system (0.9912%);

B is the amount of chromium dioxide introduced with food;

T is the amount of chromium dioxide in one kilogram of dry matter;

**Conclusion**

Information on the amount of nitrogen in the dry matter of faeces allows to determine the digestibility of organic matter, the number of feces consumed by small horned animals was calculated on the amount of excreted feces determined using chromium dioxide. According to the data obtained, the lambs consumed 2.0-2.18 kg of pasture feed per day during the experiment, the dry matter content was 0.98 kg, 0.39 energy feed units, 5.15 mJ of exchange energy, 37, Storage of 6 g of digestible protein, 349.7 g of fibre, 401 g of AEM, 8.85 Ca and 1.60 R was determined. Since the nutrients consumed from the pasture did not meet the norm in the feeding ration, the lambs needed additional feeding. After the start of supplementary feeding, the lambs did not consume nutrients from the pasture at all, consuming water, but only roughage from the pasture, so the dry matter content of the nutrients consumed during supplementary feeding was taken into account during the experiments [8].

During the balanced experiments, the lambs were tied to a sack and fed to the herd during the day, and in the evening they were separated from the herd and fed additional feed, and in the morning they were driven back to the pasture with the herd. Before driving to the pasture, 10-15% of the amount of manure in the manure bag is sampled for chemical analysis. In addition, during the 7-day balance experiment, the number of nutrients consumed was 0.430 kg in the control group, compared to 0.472 kg in the experimental group lambs, indicating a 9.77% increase over the control group. The digestibility of dry matter consumed daily by the lambs of the compared groups was 50.6% in the control group and 5.9% higher or 56.5 in the experimental group due to the consumption of various grass hay and barley porridge fed in addition to the pasture feed. %. As a result of re-chewing in the process of chewing gum, the fibrous structures of nutrients that serve as the main nutrient for bacteria are broken down, expanding the surface area of exposure of microorganisms to the mass of nutrients, and thus increasing their digestibility. The chewing process in lambs usually started 30-36 minutes after the end of the evening feeding, 4-6 chewing procedures were observed overnight and each lasted an average of 22-25 minutes, followed by chewing again after a rest period of 35-65 minutes. the return process has begun.

**References**


1. Brun, L.V. Experimental study of the nonsteroidal anti-inflammatory drugs application under using low-intensity infrared laser radiation. Ukrainian Biopharmaceutical Journal. - 2017. № 1. **с** 30-34.
2. М.А. Афанасьев, Л.Н. Скорых, И.И. Дмитрик, А.С. Сергиенко. Гистологические особенности мышечной ткани у молодняка овец при использовании биофизических методов. Вестник АПК Ставрополья. 2018. № 4 (32). С. 55-58.
3. Алиев А.А. Обмен веществ у жвачных животных. НИЦ, Инженер, 1997. 419 с.
4. Н.И. Богданов, М.П. Бабина, А.А. Барановский. Влияние низкоинтенсивного лазерного излучения с магнитной насадкой на гематологические показатели крови больных гастроэнтеритами подсосных поросят. Проблемы сельскохозяйственного производства на современном этапе и пути их решения: материалы XI Междунар. науч.-произв. конф. БГСА. Белгород, 2007. С. 73.
5. Дегтярев В.П., Козлов А.С. Роль желудочно – кишечного тракта в межуточном обмене веществ. Научный труды СевНИИЖа пос.Бишкул 1984. вып.4.т.7. С.20-24..
6. Методика опытов на сенокосах и пастбищах, часть 1. - М.: ВИК, 1971. 229с.
7. Модянов А.В., Хаданович И.В. Методики и организация балансовых опитов на овцах для определения потребности и обеспеченности их организма в питательных веществах. Дубровицы-ВИЖ. 1972. 142 с.
8. В. Г. Рядчиков, А. А.Солдатов, Н. С. Филева. Распадаемость кормового белка важный

фактор эффективности использования азота и молочной продуктивности лактирующих коров. Эффективное животноводство. 2019. - № 3 (151). С. 42-49.

9. Талалаев, С. А. Влияние лазерной акупунктуры на рост, развитие и мясную продуктивность молодняка овец северокавказской мясошерстной породы: дис. … канд. с.-х. наук: 06. 02. 04. Талалаев Сергей Алексеевич. Ставрополь, 2008. 113 с.
10. И.В. Терехов, С.С. Бондарь, К.А. Хадарцева, М.В. Паньшина. Эффекты воздействия некоторых физических факторов на живые системы (литературный обзор по материалам тульской научной школы). Медицинские технологии в клинической практике. К 25-летию вузовского медицинского образования и науки Тульской области: сб. науч. статей. Тула, 2017. С. 56-66.