EFFECT OF LOW INTENSITY LASER RADIATION ON THE IMMUNE SYSTEM OF ANIMALS

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ANNOTATION

The importance of the article is that in technological processes of care of male lambs separated from their mother (milk) to increase their productivity and durability, the selected water is due to the growth of the animal organism and the increase of the non-specific resistance of the organism due to exposure to short-term low-intensity laser radiation. It is explained by the fact that it is possible to grow high-quality products at low cost. Another important aspect is the use of the biophysical method as a biological stimulator to obtain sufficient quality products from lambs that are not used in breeding and to increase the ability to grow competitive products in the field of livestock. thoughts and opinions on increasing the efficiency of the field, which have a positive effect on the strengthening of the body's defense system, are highlighted.

Key words: *Laser beams, experiment, control, lambs, meat, bone, morphological composition, meat content, chemical composition.*

INTRODUCTION. Currently, low-intensity laser radiation is widely used as an object of biophysical effect. Based on the experiments carried out using this method, we can see significant changes in the development and growth indicators of animals at different ages, along with the normalization of metabolic processes in the body of animals. In animal husbandry, we can use low-intensity laser radiation to treat various pathologies in animals and to prevent diseases.Kasalliklarni oldini olish maqsadida lazer nurlaridan foydalanishning afzalliklari bo‘yicha olib borganttadqiqotlarini natijalariga ko‘ra, tug‘ish olididan sigirlarga 4-6 kun moboynida, to‘g‘ruqdan 10-12 kun utgach ta’sir qilish natijasida to‘g‘ilgan bo‘zoqlarning tabiiy chidamliligi 25% ga ortganligini isbotladi.

METHODS. In order to deliver environmentally friendly products in animal husbandry and to increase the endurance of livestock in different environments, it is necessary to emphasize the effect of laser radiation on the heifers of childbearing age, which are used to increase the number of cattle. Methods of enhancing the properties of colostral immunocomponents of wolf’s milk to the pods obtained from them are a method that meets the needs of the times [1].

The effect of laser radiation is related to protective-compensatory mechanisms at the level of cells, tissues and organs, general biological and adaptive effects, and helps to activate self-management.

REZULTS. It has become a reason to consider the phenomenon of intersystemic interaction of laser radiation on the functions of the immune system, together with the neuroendocrine apparatus, through the formation of immune homeostasis. The development and outcome of common pathological processes (inflammation, regeneration, reproduction, metaplasia, sclerosis) mainly depends on the role of immune mechanisms, the participation of immunocompetent cells (T and V-lymphocytes, macrophages), humoral immune factors (immunoglobulin, lymphocytes, monokines, regulatory peptides) [2].

It is suggested that the body's immune system can be achieved by increasing the concentration of T and V-lymphocytes, immunoglobulins - IgA, IgM, IgG and the level of catecholamines in the sympathoadrenal system depending on the climate change. Stabilization of these indicators takes 14 days. At the same time, with the help of laser exposure (supravascular effect on blood), the manifestation of stress in the adaptation process is reduced, the adaptation period is significantly shortened (about 5-6 days), confirmed by the results of these studies.

They tried to study the effect of low-intensity laser radiation on lymphoid cells. The authors studied the effect of the Ne-Ne laser (240 mW/sm^2), the exposure time for 30 minutes, and the indicators of the immunological effect obtained from separate fractions of leukocytes and lymphocytes in the blood [3]. As a result of these observations, it was proved that the ability to multiply lymphocytes together with the antigen does not appear as a result of exposure through the general leukocyte population.

When rabbits and white rats were exposed to low-intensity laser radiation with a wavelength of 632.8 nm for 4-8 minutes for 7-8 days (in the area of the scapula or flat bones), the activity of erythrocytes in the blood and the process of blood development increased. observed. When animals were exposed to laser radiation, it was observed that indicators of blood composition in the body were activated [4].

In the treatment of black moles and animals, high results were achieved when laser radiation with a density of 0.1 to 2*103 W/m2 and an energy dose of 2-6 J was used.

When animals were exposed to low-intensity laser radiation, morphological changes occurred in blood parameters and liver. In this case, an increase in the amount of glucose up to 2.38 mmol/l, protein - up to 70.0 g/l, reserve hydroxide - up to 51.2%, CO2 reduces ketonuria.

DISCUSSION. In order to eliminate the diseases found in animals, the method of treatment through drugs is used to improve their immune system [5].

Currently, chemotherapy is widely used in animals. It should be noted that currently the development of methods to strengthen the protective system in the animal body is of great importance. It is necessary to pay attention to the fact that various medicines have a negative effect on the animal organism.

Veterinarians have emphasized the importance of the effect of low-intensity laser radiation in the treatment of animals. The main parameters of the effect shown by this method are used as optimal indicators in a wide range of fields of veterinary medicine [6].

We found a significant increase in the bactericidal, lysozyme and complement mobility of blood serum when the mammary glands of cows were exposed to laser radiation before giving birth. This became the basis for prevention of mastitis in cows after childbirth.

The use of low-power laser radiation treatment of the mammary glands of deep-bodied cows and first-calving heifers in combination with other methods reduces the incidence of various diseases in calves, the chemical properties of colostrum that cause an increase in their viability and productivity during individual development, and serves as the basis for the increase of indicators of the immune system. Laser light enhances various life processes in fish. It should be noted that the advantages of the work carried out in this field are that it is possible to use laser radiation in different conditions and in different ways.

CONCLUSION. The following conclusions can be made based on the information presented in the above literature and scientific articles and the information provided by researchers working in this field. Despite the effectiveness of the achievements in the results of the conducted researches, laser radiation in animal medicine is still not widely used in biology and veterinary practice. Despite the fact that the use of low-intensity laser radiation in the treatment of animals is considered important, its side effects on the body have not yet been thoroughly studied. The mechanism of impact on animal productivity, physiological and biochemical parameters, and the body's defense system using biophysical methods is

not fully elucidated. Therefore, it was emphasized above that the effect of low-intensity laser radiation on lambs, especially when it is shown at the first stages of development, is of great importance.

Analyzing and concluding the information provided by the above researchers and comparing those opinions with the solutions to the questions posed in our dissertation, the results correspond to the direction we have chosen for research, in the climatic and nutritional extreme conditions of Uzbekistan, their formation is a young growing plant. is to find a positive solution to the problems of increasing the productivity and resistance of the organism to the effects of various factors using biophysical methods.

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