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<https://doi.org/10.61796/ejheaa.v1i7.798>**INSECTICIDAL PROPERTY OF BIOINSECTICIDE
AGAINST BOVICOLA OVIS****Dzhalolov A.A**
basic doctoral student**Pulotov F.S.**
Doctor of Philosophy (PhD) in Veterinary Sciences, Senior
Researcher - Scientific Supervisor**Ismailov A.Sh**
Junior Researcher
Veterinary Research Institute*Received: May 22, 2024; Accepted: Jun 29, 2024; Published: Jul 30, 2024;*

Abstract: The article presents information about the biology of the causative agent of sheep bovicosis, fleas *Bovicola ovis*, clinical symptoms of the disease, the effectiveness of the use of a new local drug "Bioinsecticide" in treatment and prevention

Keywords: *Bovicola ovis*, hairworm, bovicosis, insect, nymph, larva, adult, insecticide, bioinsecticide, disinfestation

This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license**Introduction**

Today, in order to provide the population with quality meat and meet its demand for meat, attention is paid to the sheep breeding industry. Sheep provide the following food products (meat, fat, milk) and valuable raw materials for light industry (wool, skins, fur). Sheep wool is of great importance for the national economy. Fabric, knitwear, carpets and so on are made from sheep wool, fur is made from its skin, various clothes are made from its fur, meat is a nutritious product rich in proteins and fats, as well as cheese, feta cheese and so on from its milk. The live weight of rams is 100-135 kg, ewes 70-80 kg, the wool yield of rams is 2.8 kg, ewes 2.0 kg. 100 heads of sheep produce 85-95 lambs, lamb surpasses the meat of other farm animals in the content of vitamins A (retinol), B1 (thiamine) and B2 (riboflavin).

In order to develop livestock farming in the republic, highly productive breeds of sheep such as Khisor, Karakol, Edilboy, Wool-Tajik, Afghan, and Romanov breeds have been studied and their breeding has begun. It is very important to feed imported breeds of sheep adapted to the climatic conditions of our country, to conduct selection work, and to develop feeding technologies.

Currently, based on a number of similar reforms implemented in the Republic of Uzbekistan, the field of veterinary medicine is rapidly developing in our country, and a lot of scientific and practical work is being done in this area. However, as a result of the outbreak of bovicosis among sheep in recent years, this has led to a decrease in their meat and wool productivity. Therefore, it is important to study the biology of insects parasitizing (parasites) in the body of sheep - the wool beetle *Bovicola ovis*, and to create new effective methods and means of combating them.

Purpose of the study. It consists of studying the clinical signs of sheep bovicosis, the biology of its causative agent and the use of local drugs to combat the disease.

Methods

The research work was carried out in the laboratory of arachnoentomology and acarology of the Veterinary Research Institute. Sheep of the vivarium of the institute were subjected to entomological examination. The initial diagnosis of bovicoliiasis was made during the examination of sheep with such clinical signs as itching and scratching. Samples of skin and wool fibers from the affected areas of the skin were placed in separate polyethylene bags and delivered to the laboratory. The reference book and identification tables of the collected insect species ("Identifier of Mallofaga of Domestic Animals". Animal World of the USSR. Moscow, Leningrad: Publishing House of the Academy of Sciences of the USSR, 1940; Mallofaga. Part 1. Publishing House of the Academy of Sciences of the USSR, 1959, D.I. Blagoveshchensky) and specialized literature were used and identified using an MBS microscope.

Clinical signs of the disease. Young lambs become infected with bovicola from infected mothers in the first days of life. Parasites can also be transmitted through service personnel and care products. The favorable period for the reproduction and development of bovicola is winter and spring, when animals are well fed, and there are conditions for reproduction among the thick wool.

With bovicolosis, sheep suffer from discomfort, severe itching, chafing, skin and wool damage, and dermatitis. In sheep, warts are located mainly in areas protected from direct sunlight, namely on the horns, ears and tails, armpits and inner thighs. As a result of bovicola parasitism, thermoregulation is disrupted, hyperkeratosis appears, hair sheds, and the skin becomes hairless.

Developmental biology. The body length of the woolly-eater *Bovicola ovis* is 1.4-1.6 mm, the body is flattened from the dorsoventral side. The eyes are rudimentary and located on the sides of the head. The abdomen has 8-10 segments and 12 spiracles.

The development of *Bovicola ovis* fleas occurs with incomplete metamorphosis. After mating, the female lays eggs in the roots of the hairs and attaches them with the help of uterine secretions. After 7-12 days, the egg turns into a larva. They turn into adult insects in three weeks. Adults live for 20-40 days, during which time females lay 20-35 eggs. *Bovicolas* cannot live outside the body of an animal for more than 5 days.

Results and Discussion

Of great importance is the study of the method of biological control of sheep *Bovicola ovis*, safe for the environment, human and animal health, useful fauna and flora. Therefore, in the fight against fleas *Bovicola ovis*, the local biological preparation Bioinsekticide was tested. For this purpose, a titer of spores of various concentrations of this preparation was prepared and its insecticidal properties were studied by conducting experimental tests as follows.

A total of 20 sheep infected with *Bovicola ovis* were divided into 4 groups of 5 animals.

5 sheep of the 1st experimental group were treated with the preparation "Bioinsekticide" at a concentration of 3.6 billion/ml of spores;

5 sheep of the 2nd experimental group were treated with the preparation "Bioinsekticide" at a concentration of 4.05 billion/ml of spores;

Experimental work was carried out by spraying 5 sheep of the 3rd experimental group with special equipment at the rate of 0.2-0.3 l/head with a spore concentration of 4.5 billion/ml "Bioinsekticide";

5 sheep of the 4th control group were given clean water.

The results of the experiment were monitored for 10 days, a decrease in the number of woolworms *Bovicola ovis* was observed in the sheep, since the effect was low, the experiment was repeated a second time after 12 days, as a result, after 48-72 hours, the sheep during the examination it was established that in the 1st experimental group - 40, in the 2nd group - 70 and in the 3rd group of sheep - 92% were free from woolworms *Bovicola ovis*, and in the control group 100% were alive (Table 1).

Table 1. Experiments to study the insecticidal effect of the drug "Bioinsecticide" against the wool beetle *Bovicola ovis* on sheep

s/n	Number of sheep in the experiment, heads	A type of ectoparasite	Concentration of the drug "Bioinsecticide" (in billions/ml of bacterial spores)	Method of application and dosage of the drug "Bioinsecticide"	Efficiency (in percent)
1	5	B. ovis	3,6	spray, 200-300 ml/head	40
2	5	B. ovis	4,05	spray, 200-300 ml/head	70
3	5	B. ovis	4,5	spray, 200-300 ml/head	92
4	5 Control group	B. ovis	Pure water	spray, 200-300 ml/head	0

Thus, it was established that with a two-fold application of the local Bioinsecticide at a concentration of 4.5 billion/ml, it has a high (92%) insecticidal effect on sheep against the wool-eater *Bovicola ovis*

Conclusion

It has been established that the domestic biological product "Bioinsecticide", obtained for the first time in laboratory conditions, has a high insecticidal effect against the wool-eating insect *Bovicola ovis* in sheep with a double application of spores at a concentration of 4.5 billion/ml (with an interval of 12 days).

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