

BIOSECURITY MEASURES IN THE CONTROL OF GASTROINTESTINAL PARASITIC INFECTIONS OF SHEEP IN PASTURE

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Abstract: Based on research in the world and in our country, diseases of parasitic etiology dominate in sheep in terms of prevalence and incidence, accompanied by significant morbidity and moderate mortality. The main goal of the parasitic infection control program is to improve the health status of sheep and goats. Planned application of biosecurity measures is crucial in protecting the health of small ruminants and the success of production.

• Introduction:

- Breeding of sheep represents a significant branch of livestock production. The reason for this lies not only in tradition, but also because the production of wool and milk, as well as lamb meat, is a highly sought-after item on the world market. Based on research in the world, diseases of parasitic etiology dominate in sheep and goats both in terms of prevalence and incidence, accompanied by significant morbidity and moderate mortality. Negative economic effects are manifested by a decrease in animal production, i.e. a decrease in the production of wool and milk, a poorer upbringing of young animals, a decrease in general body resistance, i.e. an increased susceptibility to diseases of other etiologies.
- All over the world, an extremely large number of older animals are infected with a large number of species of nematodes that participate in the etiology of this disease. It is of even greater importance that the infection of the young that occurs already in the first months of life. At the same time, adults are the main contaminant of pastures and are responsible for maintaining parasitic infections in herds. Their presence has been noted equally in the most modern, hygienically impeccable cultivation conditions as well as in extensive keeping.
- The main goal of the parasite infection control program is to raise the health status of sheep and goats in the Republic of Serbia. By preventing the appearance and spread of parasitic infections by taking certain preventive measures, the basic task is to reduce the prevalence of parasites, which achieves that as few infected animals reach the slaughterhouse as possible. The application of this integrated concept of parasite infection control required systematic monitoring of infection in pastures, before and after the applied measures. As part of the research conducted in the period 2004-2020, which was related to the improvement of the production of small ruminants, which included extensive parasitological research, a program of biosecurity measures to be applied during the grazing season was conceived. From these reasons the aim of our research was to determine optimal measures to control parasitic infections of small ruminants on pasture.



• Results and discussions

1. PARASITOLOGICAL EXAMINATION OF SHEEP

- The first fecal examination was done before the application of the measure and expulsion to the pasture. The following three months during the grazing season we performed second parasitology examination of animals. Before moving the animals from pasture into the farms, were performed third parasitological examination. We checked for parasites both during the autopsy and on the slaughter line. During the evisceration procedure, special attention was paid to the liver, lungs and intestines, organs through which the larval migration of parasites takes place, to determine parasite species.

2. DEWORMING

- The first deworming was done based on the results of first parasitological examination before the expulsion to pasture. Second deworming was performed after third parasitological examination before moving the animals from pasture. Ivermectin-based antiparasitics were used for this purpose.

3. EXAMINATION OF PASTURE

- Pasture testing was done before taking the sheep out for grazing, during the grazing season and after the grazing season ended. Grass samples are taken from the pasture together with sod (and roots). The number of samples is estimated by the size of the area and must be a minimum of 250 to 300 samples (about 250 grams of grass). Sampling is carried out diagonally, crosswise, in order to cover the entire examined surface. Samples are taken every 2-3 meters in the amount of a pinch (approximately 4-5 blades of grass) from four places per location (in front, behind, left and right of where we are standing).

4. MANAGEMENT OF THE PRODUCTION PROCESS ON PASTURE

- Before the sheep were taken out for grazing, the pasture was cultivated. During the grazing season, he mows the grass, which has the effect of mechanically removing the infectious parasite larvae, most of which die during drying. Persecutory grazing was also carried out during the grazing season. It is a method of using pastures to move animals from one part of the pasture to another part of the pasture at certain time intervals and return to them only after a certain period of rest. Usually, persecutions are carried out after 5-7 days, so that in 2-3 months the animals return to the initial location. The cleanest part of the pasture should be used for young animals, which is achieved by grazing them in front of older animals.

