



## SPREAD OF MONIEZIOSIS IN SHEEP AND GOATS

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**Abstract:** *This article presents an analysis of data on the prevalence of monieziosis in sheep and goats in different regions and its types.*

**Key words:** *cestodiasis, invasion, sheep, goat, helminth, helminthiasis, moniezia, Moniezia benedeni, Monezia expanza.*

**Relevance of the topic.** Monieziasis is an invasive disease of ruminants caused by parasitic infection of the small intestine by cestodes of the Anoplocephalidae family—M. expanza and M. benedeni. The disease is usually enzootic, and infected animals cause the greatest mortality among lambs, goats, and calves.

Monieziasis is widespread among sheep in many regions of Russia, including the Transcaucasus, the Baltics, Kazakhstan, Turkmenistan, Tajikistan and Kyrgyzstan.

The authors (E.Ergasheva) sicken more lambs than according to observations, and each of them loses up to 11 kg of live weight due to the disease, or the quality of obesity decreases to 30-35%, leaving 6.1 kg of meat per slaughter weight, 2 kg of fat lost. Wool is also reduced by 10-15%, and the quality of Astrakhan leather is reduced by 10%. The disease moniesiosis occurs in a flock of sheep in about 20-21% of cases. Experts estimate that 5-7% of sheep die from this disease.

M.expanza is more common in desert-pasture areas compared to irrigated areas. However, in mountainous and foothill areas, the disease occurs during three seasons of the year. sheep and goats are affected in this area from spring to late autumn. Adult worms are among the largest parasitic worms. They can reach 10 m in length. Moniezia expansa can reach 1.5 cm in width, Moniezia benedeni-up to 2.5 cm. The head (scolex) is about 0.8 cm in size and will have 4 suction cups. The



authors note that the disease affects 59% of small horned moles under the age of one year, while 31% of small horned moles aged one to 2 years and about 15% of small horned moles older than 2 years were infected with monieziosis.

**The spread of the disease.** According to research conducted by Russian scientists, infection with *Moniezia expansa* in lambs younger than one year old in the steppe zone, if it is first detected in May (19%), reaches a maximum in July (57%), and then decreases and almost disappears in January (3%). In the same group of lambs, the *Moniezia benedeni* pathogen is initially affected in March-July (3%) and reaches a maximum in March of the following year (32%). In adult lambs, as a rule, *M. benedeni* infection with the benedict type prevails. Infection of small cattle with *Moniezia expansa* with prolonged intensity was observed over a 13-year period ( $0.63 \pm 0.05\%$ ). The maximum damage was observed in 2010 (0.95%), the minimum - in 2001 (0.03%). During the 13-year period, the threshold of enzootia was exceeded in 2000, 2009, 2010 and 2011. Long-term observations show increased monieziosis infection in small cattle ( $y = 0.0274x + 0.3786$ ;  $R^2 = 0.2312$ )

Even in observations studied in the Republic of Bashkortostan, *Moniezia expansa* often affected lambs born this year. *Moniezia benedeni* is widespread, most often found in cattle, older sheep and goats. In the southern provinces of the region, monieziosis was recorded as an enzootic epidemic among young baby lambs in spring and summer.

The sheep monieziosis species *Moniezia expansa* (*rudolphi*, 1810) and *moniezia benedeni* (*moniez*, 1879) have been identified in the Republic of Belarus. Sheep monieziosis is widespread in Belarus, according to the conducted studies, the infection rate in the farms of the regions was as follows: Vitebsk region- 2.70-32.00%, Minsk region - 15.00-18.51%, Grodno region - 6.36%, Brest region - 8.18-17.85%. The peak of infection occurs in the summer, and in all seasons the disease was recorded in sheep and goats of all ages and genders. *Moniezia* occurs in 11.68% of cases in the form of monoinvasion and in 87.32% of cases in connection with other helminthic or protozoan diseases.



According to research by Kazakhstani scientists, the greatest infection of young sheep with moniezirosis was recorded in the summer months, when the infection rate (IE) reached 39.7%. In winter, the prevalence of infestation (IE) was 8.9%, and in spring, the infection rate of young sheep (IE) increased again to 11.8%.

According to the research of Azerbaijani researchers, infection of sheep with moniezirosis was mainly 21.7% in spring, 23.0% in late autumn and 2-8 copies with the intensity of invasion. It was found that the greatest infection of lambs occurs in the spring by 28.5%, and the intensity of invasion is 2-10 copies. Infection of young lambs with moniezirosis is observed in the lowland zone in May-June, in the foothill zone in June-September, in the mountainous zone in August.

According to research by Tajik scientists in sheep farms in the Vakhsh, Dangara, Timurmolinsky districts of M. Expansa and M. a significant difference between the pathogens of benediction in the seasonal dynamics of sheep moniesia and the age-related incidence of various types of moniesia was found in adult sheep. Mniesiosis in the spring and summer period (M. expansa) infects lambs, infection begins in May, and infection peaks in July. By autumn, the incidence of lambs decreases, M.dilatation is rare in winter. M.benedeni is more common in adult sheep. However, infection with this species was observed among young animals in July-August, and then most often in March of the following year. M. benedeni lives and parasitizes in the body of young animals for 10-12 months. At the beginning of the spring season, pathogenic eggs are excreted in faeces. M.The infection rate of adult Benedeni sheep ranges from 18-23% in April to 16-17% by June and decreases to 11.5% in August. Since October, the invasion of animals has been increasing again and reaches a maximum in November-December.

According to studies conducted in Uzbekistan, sheep tuberculosis (M.expansa and M.benedeni) in the Tashkent region is 1.7%, the Samarkand region is 15.6%, the Navoi region is 8.6%, the Bukhara region is 17.1% and the Surkhandarya region is 23.5%. The incidence of sheep tuberculosis in various



categories of farms is highest in breeding farms in desert and semi-desert areas (25.3%), average in peasant farms (14.2%) and lowest in private farms.

According to a study conducted in 2021, 6.08% of the 115 heads of sheep and lambs examined in the Samarkand region, 5.7% of the 227 heads of sheep and lambs examined in the Kashkadarya region, and 8.2% of the 218 heads of sheep and lambs examined in the Republic of Karakalpakstan were infected with monieziosis.

**Conclusions.** The conducted studies indicate the need for routine preventive deworming of lambs and Ibex before vaginal (at a young age of the parasite). Young lambs and Ibex should be fed for two years on healthy pastures or arable land where moniesiosis is absolutely free of infection, and in fields where crops have been mowed. Places where the herd and horses have been staying for a long time must be periodically driven away. Biothermic disinfection of animal feces; requires control of intermediate hosts, as well as feeding nutritious animal feeds based on diet. Given the prevalence of this helminthiasis and its strong impact on the growth and development of young lambs, it is necessary to calculate the economic damage caused by the disease.

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