

# *Treatment Methods for Sheep Mite Disease*

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**Abstract:** Sheep scabies (also known as scabies) is a common disease of sheep. Exposure of ordinary sheep to infected sheep, consumption of feed and drinking water contaminated with infected sheep, or exposure to environment and equipment contaminated with infected sheep can increase the likelihood of infection. Based on this, this paper analyzes the symptoms and characteristics of sheep mite disease, and proposes specific treatment methods, aiming to improve the treatment effect of sheep mite disease as a reference.

## **1. Introduction**

Veterinary clinical sheep scabies is a parasitic infection caused by itch mites parasitic on the skin surface of sheep, which has a negative impact on the skin and physical health of sheep. Infected sheep can easily spread the infection. Sheep in patients with sheep mites should be isolated: the symptoms of sheep include itching, weight loss, skin tissue thickening, etc. Farmers should pay great attention to it. Once sick sheep are found, they should be isolated immediately to avoid heavy losses. Scabies is a parasitic disease, is a common external disease in sheep, often known as "scabies". Once the parasites flock, they will spread quickly among the sheep, causing serious disease of the sheep and reducing the economic interests of the farmers. Therefore, strengthening the prevention and control of sheep tick disease is what sheep farmers need to pay attention to.

## **2. Infection mechanism**

Sheep mite disease is a parasitic disease, and the pathogen is mites, while scabies mites and itch mites are the main vectors, causing the most harm to sheep. From the parasite point of view, most scabies mites are parasitic in goats, while scabies mites, especially in sheep, spread infection through contact between sheep. Winter is the season with the highest incidence of sheep mites, and the incidence is low in spring and autumn, and the disease is transmitted through contact. If healthy sheep are exposed to the feed and utensils used by sick sheep, the probability of infection is greater. Areas prone to sheep mite disease are usually areas with large sheep activity, such as pastures, sheep pens and other places. Regularly disinfect and kill mites in such places to reduce the harm caused by diseases.

In addition, the occurrence of sheep mites is also related to the living environment of the sheep: when the sheep pen is not sunny, wet and cold for a long time, the area of the sheep pen obviously can not accommodate the number of sheep, so that the sanitary conditions of the sheep are not protected. Sheep lack of adequate nutrition, higher than normal body surface humidity and other

factors will provide opportunities for the breeding of pruritus mites.

## 2.1 Route of Transmission

The disease is transmitted through contact. The fertility and vitality of sheep mites are very strong. If healthy sheep are exposed to the feed and utensils used by sick sheep, the probability of infection will also increase. Sheep mite disease prone areas are usually areas with more sheep activity, such as pastures, sheep pens and other places. Farmers should regularly disinfect and mite such places to reduce the damage caused by diseases.

## 2.2 Clinical characteristics and epidemic characteristics

Many common diseases can occur during the sheep-raising process, among which sheep mite disease is one of the most dangerous diseases. Harmful infectious diseases can cause a significant decline in sheep skin quality, seriously hindering the growth and reproduction of sheep. Even if the illness is serious, it will cause the death of sheep, causing huge economic losses to farmers. Sheep mite disease is a contact infectious disease. In the process of breeding the sick animals, if the sick animals are not isolated and treated, they are still mixed together, which will lead to the spread of the pathogen and accelerate its transmission. In recent years, animal husbandry in China has shown a trend of intensive and large-scale development, which has created favorable conditions for the spread of sheep mites. Therefore, effective treatments for amidosis are needed to reduce the possibility of such diseases<sup>[1]</sup>.

## 3. Signs of infection

Lamine scabies usually occurs sporadically

This is a regional epidemic, with a high probability of infection in spring and winter. After sheep infection, mites will quickly breed on the surface of sheep skin, causing severe itching, leading to loss of appetite, a large number of hair on infected skin, skin tissue thickening, affecting the health of sheep. The economic value, physical condition, and health of the sheep will also be significantly affected. At the beginning of infection, small nodules appear mainly in the hairless parts of the sheep body, such as the limbs (medial) and the mouth (due to redness of infection), and then develop into papules. Over time, the papules will break into a wound. When lesions arise, the infection spreads from the back and buttocks. On both sides of the body. In order to stop itching, the sick sheep constantly rub the affected area with sharp objects, resulting in a large area of wool falling off. If the exposed parts rub, there will be very serious bleeding, and scab on the skin surface. It develops into larger wounds, where the fluid flows out and the fluid is yellowish. The mites have little demand for hosts and can easily spread between groups and even affect other groups. Sheep mite disease occurs on the skin surface of sheep, because there is covered with wool, it is difficult for farmers to find at once. Some sheep farms lack a systematic and scientific nature. Breeding density is too large, daily cleaning and disinfection is not sufficient, directly increase the reproduction rate of mites<sup>[2]</sup>.

### 3.1 Pruritus of the skin

Sheep infected with mites will appear skin itching symptoms, some are not obvious, some itching severe<sup>[3]</sup>. At the beginning of the disease, the skin of the sheep is inflamed by bacterial infection. In order to relieve itching, sick sheep wipe their skin on the walls, fence, floor and other places, when the serious time with the mouth bite, this will form a vicious circle: the more itchy, the

more itchy, the more itchy. When sheep are infected, mites breed rapidly on the surface of the skin, causing inflammation of the skin. It can cause severe itching, leading to loss of appetite, hair loss, large amounts of hair on infected skin and significant thickening of skin tissue, affecting the health of sheep. The economic value, physical condition and health of the sheep will also be significantly affected. At the beginning of infection, small nodules appear mainly in the hairless parts of the sheep body, such as the limbs (medial) and oral cavity (redness because of infection), and then develop papules. Over time, the papules will break into a wound. The lesion can spread from the back and buttocks to the sides of the body. In order to stop itching, the sick sheep constantly rub the affected area with sharp objects, resulting in a large area of wool falling off. If the exposed parts rub, there will be very serious bleeding, and scab on the skin surface. It develops into larger wounds, where the fluid flows out and the fluid is yellowish. The mites have little demand for hosts and can easily spread between groups and even affect other groups. Sheep mite disease occurs on the skin surface of sheep, because there is covered with wool, it is difficult for farmers to find at once. Some sheep farms lack systematic and scientific methods, feeding density is too high, not daily cleaning and disinfection, which directly increases the reproduction rate of mites<sup>[4]</sup>.

### **3.2 Diseased scab**

One of the most common symptoms of sheep infected with mites is hair removal and increased skin thickness. Sheep initially have itchy skin, which causes the skin surface to break, blister during friction, and even bleed. When the skin is broken, the exposed skin is mixed with the hair off the body, dirt on the ground and dust in the air, and scababs over time. Then, with further erosion of sheep mites, the sheepskin of hair follicles and sweat gland sheep is destroyed, and the cuticle on the skin surface becomes thicker, making the skin hard and wrinkled.

### **3.3 Sheep constitution is further weakened**

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## **4. Prevention and control methods**

### **4.1 Experimental materials for the treatment of sheep mites disease**

Subjects in this experiment had to randomly select 90 diseased sheep already with sheep mite osis. Before the experiment officially begins, the 90 sheep must be randomly assigned and divided into three groups of 30 sheep each. The experiment was divided into control group A, experiment group B and experiment group c. Experimental materials required for this study include: insecticide powder, ivermectin, albendazole and ivermectin tablets, and syringes.

### **4.2 Experimental methods and experimental procedures for the treatment of sheep mites**

First, the sick sheep in experimental group B were treated with a combination of insecticidal dust and ivermectin. Ivermectin was injected intramuscularly and 60 g of insecticidal powder was mixed into each sheep feed. The arians used albendazole and ivermectin tablets to treat diseased sheep in

experimental group C. Control group A diseased sheep were not allowed to use any treatment and were allowed to develop freely. The arians must isolate and keep the end of the entire experimental period. Every two weeks, they have professional tests on the skin surface and head of the sick sheep, all tests using professional experimental equipment. Mites found on sick sheep were collected in special sample bottles. Veterinarians can detail mites using equipment such as microscopes. Through observation and research, they can check whether there are already sick sheep in the flock. If they were present, they had to cut off a small portion of the sick sheep with a scalpel. The hair tissue was put into the sample bottle to facilitate the survival rate and turning rate of mites from multiple angles.

#### **4.3 Medicine liquid bath washing**

The concentration of research medicinal solution is 0.5% or 0.04%. The preparation method of insecticide is to mix with water at the ratio of 1:200, and the preparation method of Lindan emulsion is to use 2 ml of lindan emulsion, add 1 kg of water, stir and dissolve. The preparation method of stone sulfur mixture, with 2 kg of quicklime, 4 kg of sulfur powder, add water to stir into a paste, add water 50 kg to boil, remove the supernatant, extract with 15 kg of warm water, the temperature of these liquid is kept at about 25°C, so that all the wool of the sick sheep are soaked. The researchers washed the sick sheep, washed them with liquid medicine for half a month, and then chose sunny days to shear the sheep, and ensured that the sheep drank more clean water.

#### **4.4 External wipe of traditional Chinese medicine**

Milk alum powder formula: take 20 grams of frankincense, 90 grams of alum, mix, grind into fine powder, that is, milk alum powder. When using, mix 1 part of milk powder and oil 2 parts, heat to appropriate temperature and apply to the affected area. Smoke and water combination: choose 10 kg of smoke powder and 40 kg of water, mix the two, boil for about 90 minutes, filter, and then add this liquid. It is best to boil the root of the peach tree or the skin of the sunflower in water and then wash the affected area of the sheep. To sum up, it is very important for sheep to treat and prevent tick diseases to ensure the health of sheep. Sheep farmers should timely improve the environment around the sheep pen and protect themselves from pathogens and roots, which is also the basis to ensure economic benefits.

#### **4.5 Feeding anthelmintics for this treatment may be preferred by some large breeding farms**

Farmers can isolate the sick sheep in time, using less toxic deworming drugs, safer, more obvious treatment effect. Farmers can use albendazole or ivermectin for sick sheep, and its acaricide effect is very obvious. Farmers must operate in strict accordance with the instructions, especially when using drugs, they must be familiar with the dosage, time and other matters needing attention in advance. Also, the breeders should understand the contraindications. In order to improve the therapeutic effect, we must improve and integrate scientific and systematic methods from all aspects.

Certain therapeutic effect. Sick sheep may be readministered one week after the first dose, but the interval must be known.

#### **4.6 Injection treatment method**

Injection medication becomes more efficient and the whole process becomes more convenient. Commonly used injection drugs include avivitins.

Care must be taken when injecting bacteria or ivermectin, injecting 1 ml per 50 kg of sick sheep, if the symptoms are mild, again in about 14 days; if the symptoms are severe, again again. A second injection will be given one day after the vaccination.

When analyzing the experimental results, the veterinarian found that the tick infection rate of the sick sheep in experimental group B was as high as 100% before the experimental treatment, but the tick infection rate was as high as 95% after 1 week of drug treatment. Realizing that I had reached my goal. It was found that after 1 month of drug treatment, the parasite negative turning rate reached 100%. In addition, the cure rate of sheep tick disease has increased to 95%, and the treatment results are good. Before the experimental treatment, the tick infection rate of the affected sheep in group C was 100%, but after 1 week of treatment, the continuous treatment lasted about 40 days, and the tick turning rate could reach 95%. The cure rate of ticks can reach 100%, but the cure rate of sheep ticks is always around 85%. Group C was weaker than experimental group B.

## **5. Prevention and control measures**

The mortality rate of sheep mite is not high, but the harm is great. The affected area affects feeding and rest, which can lead to weight loss and quality decline of sheep. Food, fur, etc., and then affect the reproductive income of farmers, therefore, farmers should fully do a good job of prevention in the early stage, to provide a clean living environment for sheep, to ensure the economic benefits of farmers. For mite disease, the veterinarian should take appropriate treatment methods according to the condition of the sick sheep. If the skin involvement area of the sick sheep is large, you can choose the medicine bath, if the involvement area is small, then choose the smear method. Achieve greater therapeutic efficiency. Winter is coming, farmers must do a good job in the prevention and treatment of colds. When the sheep are sick, their wool should be cut off and burned to reduce the risk of infection.

### **5.1 Do a good job of quarantine and deworming, strengthen the quarantine of introduction**

To ensure the overall health of the sheep, healthy sheep were sent to the veterinarian for visual observation of mite samples collected from sick sheep. Common experimental method: ① The fresh body surface samples collected from the sick sheep were put into the experimental container, and then heated and dried. "Researchers can directly observe and study mite samples with the naked eye. If experimental facilities allow, under certain conditions, the veterinarian can use laboratory microscope equipment such as mite samples further observation, to ensure the accuracy of the observation and scientific ② veterinarian under the microscope observation mites, found mites appear obvious physical changes, have movement or no movement to determine the result is negative, otherwise judged as positive. The body surface sample of the sick sheep showed that new hairs had grown in the damaged area, and the characteristics of mites related diseases in sheep had improved, which indicated that the sick sheep mites had recovered.

## **6. Conclusions**

The occurrence of tick disease not only damages the normal growth and reproductive function of sheep, but also seriously affects the quality of sheep skin and hair, and causes the occurrence of other infectious diseases. Severe cases can result in cattle death. Although China's current breeding mode has effectively expanded the scope of breeding, it has developed to the intensive and large-scale modern breeding mode. But this also brings some problems to the development of the sheep industry. Specifically, sheep ticks are transmitted by contact, so this change in reproductive patterns provides a transmission route for sheep tick outbreaks. When veterinarians find that sheep

are infected with tick disease, they are usually treated with chemicals such as avermectin or ivermectin, but as the treatment becomes more effective, the tick becomes more resistant to the drug, and the sheep are also infected. This will cause problems for those around you. The survival status of sheep is problems with drug residues. Mmites are ectoparasites. The spread of such diseases depends mainly on contact with infection. Therefore, sick livestock may also become infected through direct contact with healthy livestock. Indirect contact may also cause an infection. The contamination of sheep's living environment and feed with mites will certainly lead to contact and infection between healthy sheep. Studies have shown that sheep sheds have a higher infection rate than free-range sheep ticks, and that sheep pens have a higher density and pathogens increasingly affect the environment. This puts the sheep in direct contact with the infection.

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