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Sheep health— scabby mouth

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Scabby mouth is a highly contagious viral disease of the skin of sheep and goats which usually affects lambs and kids in their first year of life. It can infect humans. It is also called 'orf' or contagious pustular dermatitis'. Infection usually causes scabs and pustules around the lips, but it can also affect the udder and the skin around the coronet and pasterns.

Once the disease is introduced to a property, the virus will remain in the environment for many years, but may not cause infection every year.

Scabby mouth can be prevented by vaccination.

Cause

The disease is caused by a pox virus which is normally present in scabs on affected animals. The virus can survive off the sheep for many years under the right conditions.

Clinical signs

Sheep become infected through injuries or abrasions on the skin of the muzzle, the lips or coronet or other areas of bare skin. Two to four days after infection the skin becomes reddened and may show some swelling. The first signs of infection are usually seen near the corners of the lips. The next stage is the development

Lamb affected with scabby mouth showing lesions around the lips and nostrils.





Lamb affected with dermatophilosis around nose. Note absence of lesions around lips and nostrils.

of blisters which quickly develop into pustules. These pustules then rupture, excreting virus and forming scabs, giving the disease its typical appearance.

The scabs lift in one to two weeks, leaving raw skin which quickly heals and returns to normal. In some lambs, the lesions spread along the lips and merge to form scabs which may involve the whole of the lips. In severe cases, the lesions may extend into the mouth, onto the tongue and into the nostrils.

The lesions usually disappear within four to six weeks of the initial infection.

Severely affected lambs may be unable to feed for several days, resulting in a loss of condition and an increased susceptibility to other diseases or death by starvation in young lambs. Scabby mouth alone does not cause deaths, but it will severely depress growth rates.

Lesions on the teats and udders of ewes may predispose to mastitis. These lesions are painful and the ewe may not allow the lamb to drink.

Lesions can also develop on the scrotum of rams, causing a thickening of the scrotal skin, affecting semen quality by interfering with the cooling mechanism of the testes. Scabby mouth virus has also been detected in lesions on the poll of rams.

Scabby mouth infection can also occur around the coronet and pasterns. These are susceptible to secondary infections which may result in severe lameness. Secondary infection with dermatophilosis (lumpy wool) results in a condition called 'strawberry footrot'.

In humans lesions develop as red swollen nodules on the skin four to six days after infection and usually take a long time to heal.

Transmission of infection

The virus will survive for months in exposed areas and can survive for years in a dry sheltered area such as around sheds or in yards.

Many outbreaks occur when sheep are at pasture and it has recently been suggested that the organism can survive for long periods in the flock as a chronic infection in carrier animals - in lesions on the poll of rams for example.

Outbreaks in housed sheep can be more severe because of the congregation of animals in a confined space and the restricted feeding areas. Contamination of feed troughs will result in a rapid spread of infection through a pen of susceptible sheep, particularly if they are being fed on hay containing some thistle.

The virus, although present, will not cause any problems until it gains entry to injuries on the skin of susceptible animals. The common cause of injury is grazing in paddocks with a lot of thistle or burr or handfeeding hay containing thistle or burr. Grass seeds and stubble can also cause the initial injury.

Scabby mouth infection of the foot usually develops when sheep are running in wet lush pasture containing thistles. These conditions predispose the feet, coronet and pasterns to injury, making them susceptible to infection.

Diagnosis

The disease is best diagnosed by a clinical examination of affected animals. In some animals, both dermatophilosis and scabby mouth may occur together. Conditions which can be confused with scabby mouth include dermatophilosis, bacterial skin infections and photosensitisation.

Treatment

No treatment will kill the virus and the disease normally runs its course in three to four weeks. Spread may be reduced by moving affected mobs to paddocks where injury to the skin is less likely, such as paddocks with less thistle or burr. Severely affected animals may need treatment to overcome secondary infections.

Control

Sheep which recover from scabby mouth have a lifelong immunity against severe infection. However, they are susceptible to reinfection, but the infection is milder and of shorter duration and may go unnoticed.

The disease can be prevented by vaccination using a live vaccine. Sheep are best vaccinated as lambs at lamb marking. This involves scratching the live vaccine onto the skin on the inner thigh. The lamb will develop a skin infection at the site of vaccination within five to ten days and develop an immunity in 14 days.

Sheep should be checked five to ten days after vaccination to ensure that the vaccine has taken. Successful vaccination produces pustules along the line of the scratches. These pustules progress to small scabs which normally disappear three to four weeks after vaccination.

Pregnant ewes should be vaccinated behind the elbow. If ewes are vaccinated on the inner thigh, then the udder may become infected resulting in rapid transmission of infection to highly susceptible young lambs.

Vaccination should not be considered on properties unless scabby mouth is causing problems. If sheep on an uninfected property are vaccinated, then the virus is introduced on to the property and a regular vaccination program may have to be carried out to protect stock in future years.

Handling of the Vaccine

The vaccine is a live freeze-dried vaccine which must be handled carefully to maintain its effectiveness. It should be stored at -20°C to -50°C in the deep freeze chamber of the refrigerator, not in the normal storage area. It must be kept protected from light.

The manufacturer's instructions for the preparation of the vaccine should be carefully followed. When the vaccine has been prepared ready for use it should be kept cold and protected from sunlight. Do not leave the vaccine standing on a post as it will soon lose its virulence and will not provide immunity. Because it is a live vaccine no disinfectant should be used.

At the end of the day, all containers, needles and other material contaminated with the vaccine should be burnt or thoroughly disinfected using formalin or lysol solutions.

The vaccine is a live virus and humans can be infected through skin cuts or abrasions. Care should be taken when handling the vaccine.

Further information is available from your local veterinarian.

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DISCLAIMER

The information contained in this publication is based on knowledge and understanding at the time of review (March 2004.) However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Agriculture or the user's independent adviser.