

SHEEP SCAB

FEATURES

- Sheep scab
- Goat mange
- Post dipping lameness
- Lumpy wool

Sheep scab is regarded as the most serious threat to the wool industry in South Africa. The danger lies in the insidious nature of the disease which is initially inapparent, but eventually causes irreversible damage to the wool clip and the health of the animal. Because wool is such an important export product the disease is a state controlled disease. Any suspected cases or confirmed cases must, by law, be reported to the nearest state veterinarian.

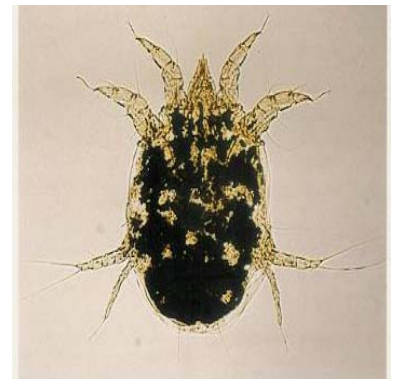
The sheep scab mite

The sheep scab mite (*Psoroptes communis ovis*) is so small that it is almost invisible to the naked eye. The mite is a specific parasite of sheep although it can live on the hair of goats for a very short time. The mite can only be distinguished from other parasites such as the Australian itch mite, with the use of

a microscope. It can infest sheep of all ages and breeds. Sheep scab mites have an astonishing reproductive capacity, as the female mite can lay eggs 9 days after hatching. The female lays her eggs on the skin of the sheep and they hatch 2-3 days later. Within 3 days the larvae change into nymphs. On day 6 the mite is already an adult and mating can take place. The life cycle is completed within 11 days. The adult mite pierces the skin and lives on the fluid which oozes from the bite wounds. The bites cause severe irritation and inflammation, and form crusts within 4 days. Lesions enlarge at a rate of 2,5 cm per month and the parasite keeps moving to the edges. The commonest method of spread is direct contact with infested sheep, but mites can survive for periods of 13 days on bits of wool, overalls, implements, in

camp, and in vehicles. Outbreaks usually occur in winter months when mites are active but sheep can have inapparent infestations during the summer. The mite burrows away into warm places such as the gland under the eye, the axilla and groin areas and the base of the horn. In fat-tailed sheep they can hide in the folds around the tail.

Photo 1: The sheep scab mite is tiny and can only be identified with microscopic examination. (Schering Plough Animal Health)



Scab outbreaks

In winter months the mites become active and the symptoms of sheep scab will become apparent. Infested sheep will start scratching, biting at the fleece, and plucking out tufts of wool. The sheep lose weight due to the continual irritation; rams will not mate and ewes may reject their lambs due to the discomfort they are experiencing. When the symptoms appear a proper diagnosis must be done by microscopic examination of the parasite. This is important as similar symptoms are seen with Australian itch mite infestations, red lice or sheep ked infestations.

When the scab mite is identified the outbreak must be reported to the nearest state veterinarian and the farm must be immediately placed under quarantine. In other words no small stock may be brought in or may leave the farm.

Photo 2: A case of sheep scab (Schering Plough Animal Health)



Spread of sheep scab

The incidence of sheep scab has increased in South Africa due to certain factors

- Shearers who move from farm to farm and do not follow hygienic practices such as wearing clean overalls and disinfection of instruments.

- Auctions are the ideal place for the spread of sheep scab because of the close contact of a large number of sheep.

- The use of under strength dip by farmers has led to ineffective dipping which later results in re-emergence of infestation.

- The transport of animals all over the country has promoted the spread of the parasite.

- Extensive sheep farming conditions make it difficult to gather all affected sheep for dipping.

- The banning of organophosphate dips by overseas wool markets has increased the incidence of scab.

Treatment of outbreaks

When sheep scab outbreaks are declared all small stock on the farm must be treated twice with a registered scab remedy with an interval of 8-10 days.

Dipping

The only acceptable method of applying dips for sheep scab treatment is the use of plunge dipping. It must be done correctly otherwise the infestation will merely be suppressed and there will

be a re-emergence later.

Remedies registered for sheep scab include organophosphates (**Coopers Supadip, Cooperzon 30**), deltamethrin - the only pyrethroid (**Decatix 3**). Amitraz-containing dips are very effective but must be applied at a higher concentration than for tick control (**Triatix 125 or 250**). All small stock of all age groups must be dipped. The animals must be immersed for at least 60 seconds and the heads must be submerged 3 times.

The dip must be made up to the correct dilution and the replenishment must be done accurately. Constant replenishment is the best method of maintaining the dip at the correct concentration.

The use of zinc sulphate, at a rate of 1 kg to 400 litres dipwash, to prevent post-dipping lameness and lumpy wool is essential if the dip is to be used for more than one day.

Dipping must be repeated 8-10 days later.

Injection

Injection with macrocyclic lactones (e.g. **Ecomectin 1% injection**) is effective against sheep scab at the recommended dose. This method of treatment has many advantages, but care must be taken to inject all animals and that automatic syringes are calibrated to give the correct dose. Not all products are suitable for use in goats so the label must be carefully studied.

Photo 3: Plunge dipping is the only form of dipping acceptable for sheep scab treatment (Schering Plough Animal Health)



Prevention

Prevention of sheep scab on the farm is very easy. It simply entails a double dipping or injection annually with registered remedies after shearing. The advantage of dipping is that it also controls blue lice, red lice, sheep keds and Australian itchmite. New sheep introduced on the farm must be treated twice before they are introduced to the rest of the flock. It is advisable to supply visiting sheep shearers with overalls and to insist on stringent hygiene in the use of all shearing instruments. Stray sheep must be kept off the property by keeping fences in good repair.

Goats

Although sheep scab mites can occur on goats for a short period of time, goats are not permanent carriers of the disease. They are susceptible to goat mange, a specific mange parasite of goats. These infestations are easy to control with the same

remedies that are registered for sheep scab.

Photo 4: Red louse infestation looks similar to sheep scab (Schering Plough Animal Health)



TIPS FOR DIPPING SHEEP

Plunge dipping is the only acceptable method of dipping for the control of sheep scab because it ensures proper wetting of the fleece. However, the dip tank itself must be correctly designed and constructed. The tank must be deep enough to allow total immersion of the animal. For small numbers of sheep a 200 litre drum can be sunk in the ground but for larger flocks greater capacity will be required. When thousands of sheep are being dipped the tank must have a capacity of 4000-8000 litres. It must be 0.7-1m wide and 1-1.5m deep. The whole length must be accessible to the operator in case of a problem arising. The tank must be correctly calibrated so that the capacity can be correctly determined. Calibration can be done with permanent markings or the use of a calibrated stick. Replenishment is required because the active ingredient is stripped out of the water.

The most effective method is constant replenishment which allows the continual inflow of dip from reservoir into the tank to keep the dipwash at the correct strength.

Post-dipping lameness and lumpy wool

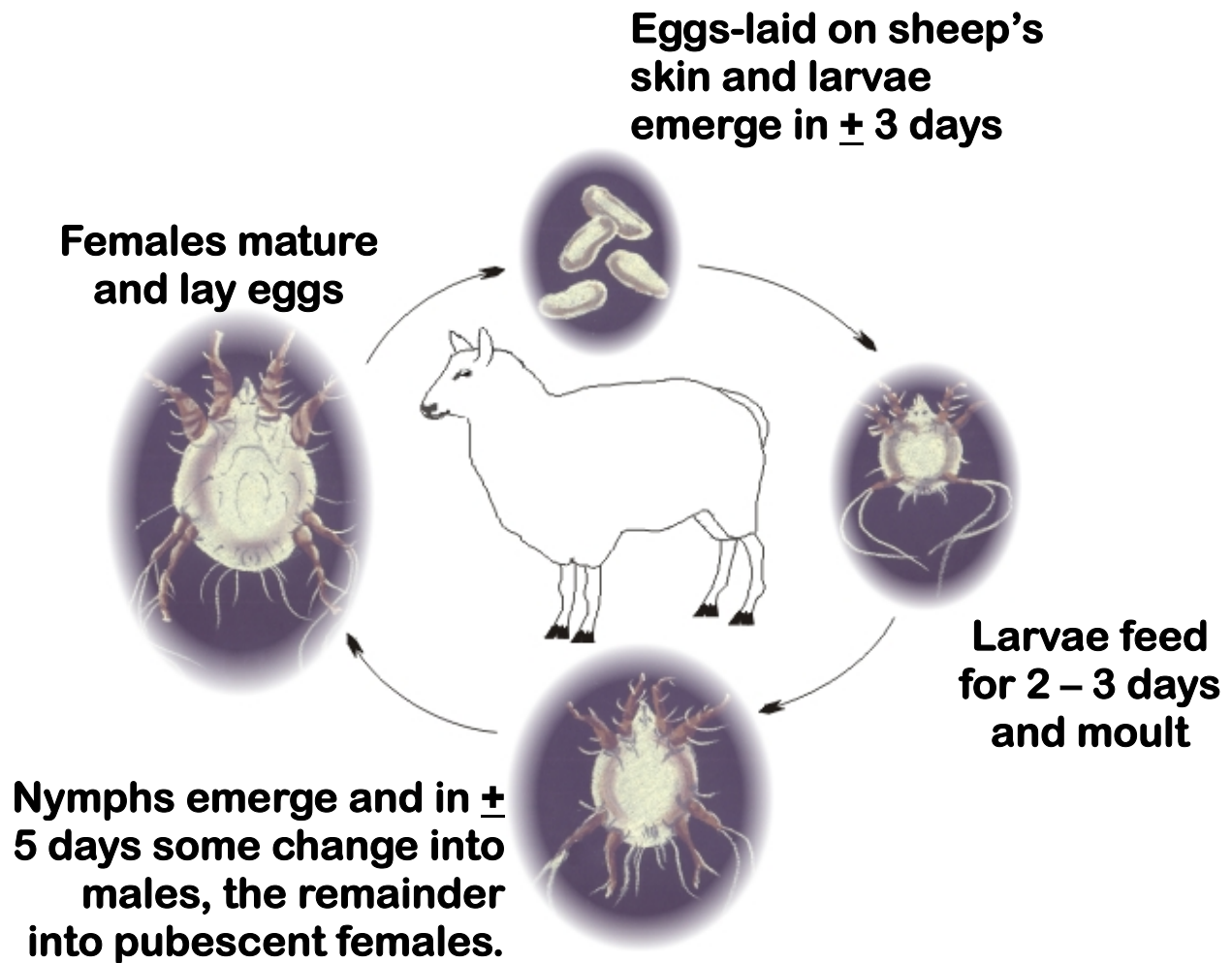
Some micro-organisms flourish in the dip tanks and can cause problems for the sheep that are dipped. The bacterium *Erysipelothrix rhusiopathiae* occurs in the faeces of sheep. The dipwash becomes contaminated with these bacteria which then enter through wounds of the skin. The skin becomes red, swollen, and sometimes the sheep develop arthritis and subsequent lameness a few days after dipping. Affected sheep must be treated with antibiotics because chronic arthritis can cause them to lose condition.

Another fungal organism *Dermatophilus congolensis* causes skin infection and discolouration of the fleece which is given the name of "lumpy wool". The addition of zinc sulphate at a rate of 1kg to 400 litres dipwash will prevent the growth of both organisms.

Dr Pamela Hunter

Life Cycle of Sheep Scab Mite

(Psoroptes ovis)



The cycle lasts on the sheep for \pm 11 days