



Itch mite in sheep

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Itch mites in a nut shell

- tiny mites that live in surface skin of sheep; impossible to see without magnification
- present in some Australian sheep flocks, but the prevalence is low
- cause some sensitised sheep to rub and chew at their fleeces, but the economic effect is minor
- spread from ewe to lamb and between shorn sheep
- very slow to spread on individuals and through a flock
- fine-wool Merinos and poorly fed sheep are more susceptible
- no eradication method; cull affected sheep or give macrocyclic lactone (ML) drench



Figure 1. Itch mite (*Psorobia ovis*)

Source: Peter James

The itch mite, *Psorobia ovis* (formerly *Psorergates ovis*), is a microscopic parasite that lives on the skin of sheep. Being only about 180µm long it cannot be seen with the naked eye. It causes intense irritation resulting in rubbing and scratching, which may lead to severe fleece damage. This mite is found in sheep throughout Australia, but because it is difficult to detect, its prevalence is not known.

During the 1980s, reports of itch mite were fairly common, but since the introduction and use of macrocyclic lactone worm drenches (MLs; ivermectin, abamectin and moxidectin), reports of this pest have been rare. As well, confirmation of suspect cases has not been common because farmers usually opt to treat infestations rather than seek a diagnosis.

Signs

Signs of itch mite infestation relate to irritation caused by the presence of mites. Affected sheep rub, scratch and bite at their fleece resulting in the fleece having a ragged, tufted appearance not unlike the derangement caused by heavy lice infestation.

Sheep with itch mite bite more at their wool than do sheep with lice, resulting in tassels of wool that hang down along the flanks. The skin may also have excess dry scurf and scale, and may be mottled with greyish patches.



Infested flocks usually show a range of signs. Most sheep show no fleece damage at all, or may have some tufting of wool along the flanks. Very few sheep (usually one per cent) have severely damaged fleeces. Itch mite mainly affects older sheep and is rarely seen in young sheep.

There are numerous reasons for sheep to rub, see LiceBoss Note: [Causes of rubbing in sheep](#).

Importance

The economic importance of itch mite infestation to the sheep industry has not been clearly established. Severely affected fleeces may be discounted at sale, but this usually involves very few sheep. Where there is only tufting of the surface wool, fleeces are usually not downgraded. Wool cuts on badly affected individual sheep may be reduced but a reduction in value of the total fleece usually occurs in less than one per cent of the mob. The major impact of mite infestation may be to cause concern about the flock's appearance, especially on stud properties. Because the signs of itch mite infestation are similar to those caused by lice, itch mite infestations often lead to a false suspicion of louse infestation. As with other parasitic diseases, poorly fed sheep are likely to become more severely affected.

Life cycle

The entire life cycle of the mite is spent in and on the skin of sheep. Newly laid eggs develop through several nymphal stages to the adult mite over five weeks. Only the adult is freely mobile, so it is during this stage that infestation is most likely to spread from sheep to sheep. Itch mites die quickly when not in contact with sheep. Generally, mite populations increase in winter and spring and decline over summer. Transmission does not occur readily, but when it does, it is usually between shorn sheep and between ewes and lambs. The greatest opportunity for transmission occurs when sheep are shorn in late winter or spring when mite numbers are greatest. Spread is greatest in yarded sheep immediately after shearing.

Mite populations are slow to build up, and usually spread slowly through a flock. It is rare for more than 5–10 percent of a flock to show signs of itch mite. Mites may be present in a flock for several years before they are noticed.

Diagnosis

When flock owners see ragged, pulled fleeces they usually suspect a louse infestation. Mites are suspected only after no lice or other possible causes of the fleece derangement are found. Confirmation of a mite infestation is made by examining skin scrapings under a microscope and requires specialist veterinary advice to ensure correct diagnostic pathway, assumptions and scraping technique.

Scurf (which may vary from sparse white powdery skin particles to thick white or yellow flakes) on the surface of the skin may also be seen with mite infestations. One practical difficulty in confirming the presence of itch mite involves selecting sheep to be examined. Sheep showing the greatest signs of fleece damage may have only low or moderate mite numbers, whereas sheep with many mites may show comparatively little fleece damage. This reflects the sensitivity of the host rather than the intensity of the infestation. The results from skin scrapings are hence often disappointing, and it may be necessary to examine several sheep before mites are found.

For the reasons already mentioned a negative result is still not conclusive. If fleece rubbing continues, and no other cause can be found, another attempt at scraping may be necessary. Scrapings should be done in spring when itch mite numbers are greatest. An alternative approach to obtaining a diagnosis is to do an individual rub score on the worst affected sheep, and then drench half of them twice with abamectin, moxidectin or ivermectin three weeks apart. Rub scores should then be compared four to



six weeks after the second treatment to see if the treatment has worked. Seek veterinary advice to ensure assumptions and diagnostic pathway is correct.

Control

Itch mites are harder to control than lice and complete eradication is probably not possible with the chemicals currently available. Experiments have shown that treatment is best done in spring. Treatment should significantly reduce the signs of fleece damage and, because of the slow build up in numbers, no further signs should be seen for several years.

Drench

The macrocyclic lactone group of chemicals (ivermectin, abamectin and moxidectin) will control itch mite. It is not usually economical to drench the whole mob solely because of itch mite, so it is recommended to use this drench group at a time that fits in with the farm worm control program.

Dip

Some control is achieved with either rotenone, amitraz or sulphur. Check that the product label has a claim for itch mite control. Dipping should be done within six weeks after shearing. Sheep must be completely wet to the skin during dipping.

Cull

Some sheep may continue to be affected; because this only involves a small number, an option is to cull these animals.

Management

It is important that newly shorn infested sheep do not mix with 'clean' sheep, especially in spring. If itch mite is present in a ewe flock, it will spread to new lambs, especially if ewes are shorn before lambing. Choose one of these options to reduce the spread of itch mites to lambs:

- Delay shearing until after the lambs are weaned.
- Give a pre-lambing drench containing a macrocyclic lactone to pre-lambing ewes.
- Give a weaning drench containing a macrocyclic lactone to both ewes and lambs.

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