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ARE BACTERICIDES NECESSARY IN SHEEP DIPS?

By M. R. GARDINER, Chief, Animal Division

THE OCCURRANCE of mycotic dermatitis in sheep in Western Australia, although rather unpredictable, is quite frequent throughout the higher rainfall districts.

It remains an important health problem partly because of secondary effects such as fly-strike and bacterial wool infection and partly because it is often unsightly and its appearance would suggest that downgrading of wool quality would result. In fact there is little direct permanent damage and the scabs in the fleece generally scour out readily. However, there is little doubt that where possible and feasible, farmers should try to prevent outbreaks of mycotic dermatitis.

The infection is found in many sheep in affected districts, persisting in small scabs on the face, ears and muzzle. The lifted scabs and lumps on the wool do not harbour viable spores of the infecting organisms for more than a few weeks and are not regarded as important sources of infection.

CSIRO workers have found that certain well-defined conditions are necessary for the transmission of mycotic dermatitis, including:

- Presence of carrier sheep with many small facial lesions of the chronic disease or with active acute lesions.
- Wetting of the scabs either by rainfall, lush wet grass or dipping, which activates and releases motile spores.
- Mechanical transfer of motile spores from the wet scabs either by close sheep-to-sheep contact or by flies.
- Increased susceptibility of the skin of the sheep resulting either from shearing cuts, or from scalding of skin which may occur if sheep are dipped or sprayed more than a month off shears.
- Dipping in wet weather when the skin and wool covering remain wet for long periods.

Because of the association of infection in some cases with dipping, efforts have been made for several years to control infection by adding bactericides to the dips and it has been suggested that commercially available dips containing bactericides will do this.

There is little evidence, however, that bactericides prevent infection under field conditions. Sheep with lumps of scabby wool probably seldom carry viable spores and the number of organisms contaminating the average dip is usually low or even nil.

Laboratory trials by Department of Agriculture officers have been inconclusive and even shorn areas of skin previously treated with the bactericidal dips have been infected when subsequently inoculated with motile spores. This is probably because the spores are very active and penetrate the wool follicles within minutes of getting onto the skin, before the bactericide has had time to kill them. Inside the wool follicle the organism is beyond reach of any bactericidal agent.

Most veterinary scientists working in this field consider that management aspects are the most important in the prevention and control of mycotic dermatitis, far outweighing the very doubtful advantages of a bactericide in the dip.
Recommendations which farmers should heed are:—

- Do not dip sheep previously wet with rain or dew. Pick a time when weather has been warm and dry for 24 to 48 hours before dipping.
- Dip within 30 days of shearing on warm dry days when no rain is expected. Remember that this period is also the best for lice control.
- Lambs are very susceptible to mycotic dermatitis, especially of the legs. This may be encouraged by skin irritation resulting from walking in long grass in spring. This should be taken into account when planning lamb and pasture management.
- Since most infections recover spontaneously, specific treatment is usually unnecessary. If actively infected sheep are still present in the flock two months before the next shearing, they may be cured by an injection of penicillin and streptomycin. This allows the scabs to lift so that shearing may be accomplished unimpeded and so that dips are not contaminated by the organism.
- Move freshly dipped sheep quickly to pasture so that intimate sheep-to-sheep contact is avoided.
- Do not wool-brand sheep during the rainy season. Alternative methods of identifying sheep are now permitted under the Brands Act.

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