



Footrot in Sheep: 5. Benign Footrot

Updated: March 2008

AG0190

ISSN 1329-8062

Tom Glynn, Bendigo

Benign footrot, also known as scald or non progressive footrot, is a common condition of Victorian sheep flocks. The disease is caused by strains of the footrot bacteria, Dichelobacter nodosus, which usually cause only mild lesions in sheep. Benign strains have similar survival and transmission features to those of virulent strains of the same organism.

Symptoms of benign footrot

The lesions associated with benign footrot are identical to those seen in the early stages of virulent footrot. That is, inflammation of the skin between the toes extending to the inner walls of the hoof.

Some sheep will have separation of the soft horn from the sole, mainly around the heel, and in a few sheep this separation may extend to the outer wall (hard horn). The great majority of lesions associated with benign footrot do not progress past severe scald or partial separation of the soft horn, hence the name non-progressive footrot. The characteristic footrot smell maybe present but is less evident than in virulent cases and less necrotic material is present at the lesion site.

Benign footrot - season disease

Benign footrot usually appears in a flock in spring but can also be seen after an early autumn break and on rare occasions in winter. It can also flare up when barley grass seeds are present.

During the rest of the year there may be no outward signs of the disease. For this reason, benign footrot can be present in a flock for some time before it is detected.

Benign footrot flocks not quarantined

Footrot is categorised into two forms; virulent footrot which causes severe lameness, loss of condition and production and which should be eradicated; and benign footrot which is characterised by mild lameness, little loss of condition or production and recovery under dry conditions. There is general agreement that benign footrot is difficult, if not impossible to eradicate although research into the feasibility of its eradication is being carried out.

Many farmers are unaware that benign footrot is present in their flocks. Their first realisation often comes when sheep are being inspected at a sale, for interstate movement, during surveys or by a purchaser inspecting suspect feet. Benign footrot is more prevalent in Merinos

than crossbreds. It is also more prevalent on improved, clover dominant pastures and with higher stocking rates.

Footrot diagnosis

Virulent footrot in most cases is relatively simple to diagnose. However, diagnosis of benign footrot is not always straight forward. Current laboratory tests have limitations.

Research is continuing into the development of rapid and accurate laboratory tests. Identifying a group of sheep with lesions and re-examining them one or more times under conditions suitable for footrot spread is the most reliable method of diagnosis. The previous history of the sheep is important in this assessment and laboratory tests may be used as a backup.

Apart from the wide variation of strains of the footrot bacteria, environmental and host factors play a key role in the expression of the disease. Footrot is seen as a continuum of disease expression ranging from highly virulent at one end to very benign at the other end of the scale.

Footrot is a complex disease and the available tests have limitations. It is essential to have industry agreement on the classification of virulent and benign footrot. The decision to redefine the classification was taken in consultation with the representative body of the State's sheep industry, the Pastoral Council of the Victorian Farmers Federation in 1996. It was agreed to adopt the National Standard adopted earlier by the other mainland States. This means that flocks with 1% or more of sheep with severe lesions (score 4 or 5) are now classified as having virulent footrot.

Benign footrot in saleyards

The great majority of store sheep in Victoria are sold in spring/early summer. The timing of these sales coincides with ideal pasture conditions which activate benign footrot. Every year during these sales, sheep have to be withdrawn from saleyards because of footrot lesions, some of which after reinspection on the property and further testing may turn out to be benign footrot. These situations cause embarrassment and ill feelings and can also affect prices for other vendors' sheep, especially at "blue ribbon" store sales.

Because of the similarity between benign and early virulent footrot lesions, the inspector has no option but to have the sheep in question withdrawn from sale and returned to their property of origin or sold for direct slaughter. By being aware of the signs of footrot, determining whether it is virulent or benign, and initiating appropriate control measures, sheep owners who have benign footrot in their flock can avoid embarrassment and loss of sales by ensuring that sheep with lesions are not presented for sale.

Control

Benign footrot can be controlled during the active stages by foot bathing. This may be repeated as often as required. Moving sheep on to drier country is often sufficient to help recovery. However, the disease is likely to recur in the next favourable season. Benign footrot is further complicated by mixed grazing where cattle carry and spread the disease. If regular footbathing is required to control the disease then it is possible that virulent footrot is present and a different approach needs to be taken to treatments, control and eradication.

Conclusion

Benign footrot, while of concern to many sheep owners, particularly those with stud flocks, represents a minor cost to the Victorian Sheep Industry.

It is essential that owners obtain an early diagnosis so that control measures appropriate to the type of footrot present in the flock can be put into place.

At this time attempts to eradicate benign footrot are not recommended.

Awareness about benign footrot, its effects and its control are essential in coming to terms with the disease.

Modified Egerton system for scoring lesions of footrot

Score 1 Limited mild interdigital dermatitis:

slight to moderate inflammation which is confined to the interdigital skin and involves erosion of the epithelium.

Score 2 More extensive interdigital dermatitis:

a necrotising inflammation of the interdigital skin which involves part or all of the soft horn of the axial wall of the digit.

Score 3 Severe interdigital dermatitis and under-running of the horn of the heel and sole:

a necrotising inflammation with under-running of part, or all, of the soft horn or the heel and sole which does not extend to the abaxial edge of the sole of the hoof.

If necessary, a more precise subdivision into 3a, 3b and 3c can be used for the purposes of research into vaccines, and in pathogenicity studies.

Score 3a

Separation at the skin-horn junction, with under-running extending no more than 5mm;

Score 3b

under-running no more than halfway across the heel or sole;

Score 3c

more extensive under-running extending to the heel or sole but not extending to the abaxial edge of the sole of the hoof.

Score 4 As for Score 3 but with the under-running extending to the walls of the hoof:

under-running extending to the abaxial edge of the sole of the hoof.

Score 5 Necrotising inflammation of the deeper epidermal layers (laminae):

of the abaxial wall with consequent under-running of hard horn of the hoof.

The previous version of this note was published in March 2007.

The advice provided in this publication is intended as a source of information only. Always read the label before using any of the products mentioned. The State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.