
FOOT LAMENESS IN SHEEP

If it is a sheep's most fervent ambition to die in the most dramatic way possible, then surely the next desire in its woolly head is to go lame. For many U.K. flocks lameness is an endemic problem and prevalence has probably increased following the change in weather patterns to mild winters and wet summers. Lameness is an important source of production loss and a welfare issue as well. Its prevention and control is time-consuming and requires a labour input which is not necessarily readily available on today's farms. The two commonest causes of lameness in sheep, scald and footrot are linked by a common cause, the bacterium *Fusobacterium necrophorum*, which is present in all ruminant faeces and therefore on any pasture grazed by sheep.

Scald occurs when the interdigital skin becomes infected by this bacterium, causing inflammation and pain. Unlike in footrot, there is no under-running of the horn. Factors causing the development of scald include wet pastures and long grass. These damage the interdigital skin and allow *F. necrophorum* to colonise the damaged area. Uncomplicated cases of scald will resolve spontaneously if the sheep are moved to dry pasture. Alternatively individuals can be treated topically with oxytetracycline spray, or on a flock basis, by footbathing in 10% zinc sulphate or a 3% formalin solution. Footrot vaccines are ineffective against scald.

Footrot starts as scald but requires the presence of an additional bacterium, *Dichelobacter nodosus*, which is found only on infected feet but can survive for 2-3 weeks on pasture. There are different strains of this bacterium which have varying virulence. The combination of the two bacteria causes separation of the horn from the underlying structures of the foot. Depending on the strain involved, this separation may spread across the sole and up the wall of the hoof.

Anyone who has trimmed a diseased foot will know that the disease is associated with a characteristic foul smell, which tends to stick to the fingers! Treatment and control of footrot centres on footbathing, remedial paring, antibiotic injections and vaccination:

Footbathing in either 10% zinc sulphate or 3% (not stronger) formalin solution works well provided that the sheep are stood in the footbath for long enough (particularly important with zinc sulphate). Leave the sheep on hard-standing for at least one hour post footbathing and then ideally turn them onto fields that have been free of livestock for at least two weeks and hence are clean.

Both of the bacteria involved in footrot are anaerobic and so paring the feet to expose the infected tissues to the air will aid recovery. Keep trimming to a minimum and do not to cause bleeding. Disinfect hoof-trimming equipment between animals and sweep away hoof trimmings and dung from the trimming area between groups.

The footrot bacteria respond well to antibiotic injections such as Pen/Strep or Oxytetracycline. A single long-acting injection will cure most cases of footrot, but is expensive on a flock basis and gives no protection against reinfection. Vaccination is an important part of a footrot control programme. Vaccinate sheep twice, 4-6 weeks apart, for maximum resistance and then give a booster dose before periods of maximum risk. Vaccination can also be used to aid recovery from footrot, but vaccination alone will not control footrot on a farm and must be part of overall control programme.

Some sheep will prove impossible to cure and repeat offenders should be culled, as they will simply re-infect their flock-mates. Susceptibility to foot rot is inherited and so do not keep replacements bred from ewes or rams that are repeatedly lame with footrot

Isolate any bought-in sheep, or sheep returning from eatage for at least 3 weeks and inspect them regularly for signs of lameness.

Eradication of footrot on a farm is possible through application of the above regimes but attempts to eradicate the disease under U.K. conditions which favour transmission of the disease often fail, and the cost of eradication can be

considerable and must be balanced against the cost of endemic footrot in the flock.

A relatively new cause of lameness is Contagious Ovine Digital Dermatitis or CODD. This serious infection of sheep's feet is characterised by lesions that begin at the coronary band and then rapidly spread down the hoof, often causing the whole hoof to be shed leaving a raw stump. This condition fails to respond to orthodox treatments for foot rot and you should seek veterinary advice if you think your flock is affected by this disease. On no account should affected sheep be footbathed with formalin because of the painful nature of the lesions.

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