

Footrot or Not? Differentiating between infectious foot diseases in sheep

Lameness is one of the most significant economic and welfare issues plaguing sheep producers, with disastrous effects on body weight, fertility, lamb and wool growth. Whilst lameness in cattle is predictably caused by management factors, sheep and goats are more likely victims of infectious, highly transmissible foot diseases.

There are three notable types of foot lameness caused by infectious agents – Ovine Interdigital Dermatitis (‘foot scald’), Footrot and Foot Abscesses. All of these conditions result from increased pasture moisture and density, causing the rapid loss of interdigital skin integrity. Once compromised, bacteria from faecal matter in the soil invade the skin and proliferate within the foot. As a producer, being able to correctly distinguish between these diseases will enable efficient and appropriate treatment, as well as allow for prevention plans to be implemented before the whole flock becomes affected. Identifying Footrot is of particular importance as it is a notifiable disease in NSW under the Stock Diseases Act 1923, and is subject to statewide control.

Ovine Interdigital Dermatitis (OID) is caused by *Fusobacterium*, and commonly affects about 30% of the herd. As the name suggests this condition is confined to the skin between the claws, and is particularly common in lambs in the Spring and Autumn. OID will present as moist reddened or grey interdigital skin with hair loss. The lesion is completely confined to the interdigital space, with no separation of the sole. Lameness is acute despite the lesion appearing less severe when compared to footrot.

‘Footrot’ is often used colloquially to describe miscellaneous foot disease, when in reality it describes a specific syndrome. Caused by the bacteria *Dichelobacter*, Footrot manifests in benign and virulent forms and can affect 100% of the herd. Benign footrot is clinically indistinguishable from OID, with moist inflamed interdigital skin possibly accompanied by under-running of the sole. Careful examination of the skin/horn junction towards the back of the interdigital space will reveal whether separation of the sole has commenced. Virulent footrot is characterised by severe and progressive separation of the soft and hard horn from the underlying tissue. This may involve the entire sole and extend up the hoof wall.

Foot abscesses are categorised into heel or toe abscesses, and are common in high rainfall areas. Heel abscesses are the result of bacteria colonising the deeper soft tissues. After abscessation, the build up of pressure within the foot causes intense pain and eventual rupture, forming a ‘sinus’ at the coronet from which discharge erupts. Sheep are found to be severely lame. Toe abscesses result from damage to the laminae of the hoof due to traumatic injury, such as the breaking of overgrown horn. They may also result from laminitis due to grain poisoning. These abscesses usually break out at the top of the hoof.

Footrot and abscesses are commonly confused given their development from dermatitis and similarity in environmental triggers. They can be differentiated systematically by comparing a few simple characteristics. Most notably, foot abscesses will usually only affect one foot, whilst more than one foot is affected by footrot. Abscesses are characterised by swelling and heat on palpation, neither of which are present with footrot. A creamy green pus may be noticed oozing from sinuses with foot abscess, whilst no pus or break in the hoof-skin junction is apparent with footrot. Footrot will give off a putrid odour and can become fly blown, whilst this is uncommon in abscessation. Virulent footrot will spread rapidly through the flock, affecting sheep of all ages including lambs. Foot abscesses are generally confined to ‘heavy’ sheep, namely rams or pregnant ewes.

Learning these simple tips to differentiate between infectious foot disorders will enable you to devise an early intervention strategy and treatment plan. Stock rotation, foot bathing and vaccination plans can be implemented as part of the holistic management of these disorders. Remember that no matter how savvy you become at identifying these disorders, always consult your veterinarian for confirmation of your suspected diagnosis!