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Foot abscess in sheep

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Foot abscess is a serious disease of sheep. Its effect on welfare and productivity can equal virulent footrot in severity.

It causes severe lameness in one or more feet and can result in a marked loss of condition as affected animals cannot move around to graze.

Rams and ewes may be unable to mate, and in severe cases death may occur. Ewes affected in late pregnancy may develop pregnancy toxemia and die. Ewes affected during lambing will lose a high proportion of lambs.

There are two distinct forms, heel abscess and toe abscess.

Animals affected

Both heel and toe abscess are more common in fat, heavy sheep. For this reason the disease is more common in meat breed rams than Merinos, but it can occur in both.

It is more common in fat, twin-bearing ewes of any breed. It is less common in young sheep, in non-pregnant ewes or ewes in poor body condition.

Foot abscess is more common in good seasons, in higher rainfall areas when conditions are also favourable for the development of footrot. In such seasons sheep are normally in fat condition grazing high biomass pastures and the ground environment is warm and moist.

Heel abscess

Cause

This is a bacterial infection caused by organisms which are normally found in the gut and faeces of healthy sheep. They can only cause disease when

the normal healthy skin of the foot is damaged. This can occur with abrasion, or prolonged wetting of the skin which occurs when grazing long, wet pastures or after flooding.

Bacteria from the ground colonise the damaged skin surface, causing dermatitis between the claws of the foot. The bacteria then invade the deeper soft tissues of the foot and begin to form an abscess inside. As infection progresses the abscess grows, increasing pressure within the foot and causing intense pain. Eventually the abscess breaks out to the skin surface and pus can be seen discharging. The opening is called a sinus and often occurs at the coronet (junction between hoof wall and leg) or may occur at the heel between the claws. Sometimes the sinus may open further up the leg.

A ram affected with toe abscess in the front feet





Early stages of heel abscess – note the interdigital dermatitis.

Clinical signs

Affected animals are found to be severely lame, often refusing to move at all. Usually only one hind foot is affected but in severe cases multiple feet can be involved. The foot is hot, swollen and painful.

Affected sheep may not move to feed so rapid weight loss can occur. With pregnant ewes this can lead to pregnancy toxæmia and death. Lactating ewes may have little milk and lambs can starve.

Rams with heel abscess may be unable to mate, and their fertility may be low for up to two months after they recover.

Recovered sheep may develop permanent deformity of the affected hoof which makes it more likely for heel abscess to recur when conditions are suitable.

Treatment

Moving sheep to drier paddocks is important; avoid using muddy yards and laneways as this will make the disease worse.

Control

The aim is to avoid the predisposing causes of heel abscess, such as over-fatness and wet, muddy ground conditions. There is no evidence to support the use of iodine supplementation as a prevention for foot abscess.

Adopt management practices to prevent sheep becoming over-fat, especially pregnant ewes. This may also help to avoid other problems like pregnancy toxæmia.

Avoid putting pregnant ewes in muddy conditions, including yards and laneways, even for short periods. In wet seasons try to avoid putting pregnant ewes onto cereal crops until after lambing, as the ploughed conditions are ideal for developing dermatitis of the feet and subsequent heel abscess.

If these paddocks must be used try to allow access to dry areas such as roads, large dam banks or herbicide-sprayed sheep camps where sheep have the chance to dry their feet.

If sheep must be yarded at these times, such as for pre-lambing drenching or other operations, dermatitis can be controlled by foot bathing the sheep in 10% zinc sulphate as they leave the yards.

If permanent yards are waterlogged or muddy, use portable yards and footbaths to avoid making the dermatitis worse, especially when working with late pregnant ewes. Seek advice from your veterinarian on what chemicals to use.



A chronic case of foot abscess with a discharging sinus

Toe abscess

Cause

Toe abscess results from damage to the sensitive laminae of the hoof caused by an injury to the toe region. The initial injury usually results from breaking of overgrown horn. This may be the result of shelly toe, or it may follow separation of the hoof wall caused by laminitis due to grain poisoning.

The damaged hoof is invaded by a variety of bacteria from the environment. A number of different organisms can cause toe abscess.

Once infection begins, the abscess develops and travels along the line of least resistance. The abscess usually breaks out at the top of the hoof forming a sinus.



Toe abscess which has broken out. The infection moves along the line of least resistance and usually breaks out at the top of the hoof (coronet).

Clinical signs

Toe abscess also causes acute lameness but is more common in the front feet. The feet may not be as hot and swollen as in cases of heel abscess.

In some animals the affected claw may be detected only by squeezing the foot to detect a painful response.

Toe abscess usually affects a smaller percentage of the flock than heel abscess. It can affect non-pregnant ewes.

Treatment

Toe abscess can be treated successfully by paring the affected claws to drain the abscess. Release of pus is followed by rapid recovery in most animals.



Toe abscess which has opened up and is discharging pus.

Control

Toe abscess can be prevented by paring overgrown feet. This will prevent the initial injury that predisposes to toe abscess.



Early stage of heel abscess – this could be confused with footrot. It is essential to distinguish between foot abscess and footrot. Consult your district veterinarian.

Distinguishing between footrot and foot abscess

Foot abscess can be confused with footrot as both diseases develop from dermatitis of the foot. They both can cause severe lameness, and develop when conditions are moist.

Footrot is a notifiable disease and is subject to a state-wide control program that was established in 1988. It is important to accurately diagnose the cause of lameness in sheep so they can be treated correctly.

The following table is only a guide. If you have any doubt about the cause of lameness in your sheep please consult your district veterinarian at the nearest Livestock Health and Pest Authority office as soon as possible.

Footrot	Foot abscess
Usually affects more than one foot	Usually affects one foot, which is carried
No swelling	Swelling – usually spreading the toes
No pus, but a black-grey slime may be present	Green – cream pus discharge
No heat	Hot to touch especially at the site of swelling
Putrid odour	Slight odour – not fly blown
Spreads rapidly through the flock affecting all ages including lambs	Usually seen only in heavy sheep, e.g. rams and pregnant ewes
No break in the coronet (hoof-skin junction) but separation of the sole of the foot with under-running	Abscess usually breaks out near the coronet, but sometimes in the heel or toe

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