



**Victorian Farmers**  
Federation  
Livestock Group

## Livestock Factsheet

» Footrot

### What is Footrot?

Footrot is a serious and common infectious disease which affects sheep, goats and occasionally cattle. Footrot is caused by the bacterium, *Dichelobacter nodosus*, and is a contagious disease characterised by lameness and subsequent negative impacts on production and economic viability through lower growth rates, reduced ewe fertility and marketing inefficiency. Footrot can become very costly and time consuming to control and eradicate.

The organism responsible, *Dichelobacter nodosus*, can infect your flock with a benign strain which usually means the effects of footrot are to a lesser extent, mostly affecting the skin between the toes. This mild strain is generally temporary. A flock can also be infected with a more aggressive virulent strain of the organism causing chronic lameness and ill-thrift, heavy production losses and in some cases mortalities.

Footrot is a notifiable disease in Victoria and follows strict guidelines under disease control legislation.

### Impact of Footrot

An outbreak of footrot can have damaging effects on the productivity and economic viability of your business. Impacts of footrot:

- Decrease in body weight reducing ewe fertility and potentially increasing the need for supplementary feeding.
- Lower lamb body weights increasing lamb death rates and health implications at weaning and reducing the value of prime lambs.
- Lower wool production and quality reducing fleece value.
- Increase in productivity costs due to the direct costs associated with the treatment of footrot.
- Lower stocking rate through culling of sheep.
- Fewer marketing opportunities.
- Stress to the producer.

### Is my flock susceptible?

All breeds of sheep are susceptible to footrot however Merinos are more frequently affected. Younger sheep tend to be more vulnerable to the disease than older sheep. Sheep that have previously been infected with footrot do not obtain any natural immunity or resistance to the disease.

The prevalence of footrot is affected by a number of factors including the type of bacterial strain, its persistency and environmental factors. The establishment of infection is increased in environmental situations where:

- average daily temperatures are 10oc or higher for a number of days
- there is sufficient pasture moisture and density
- there is muddy laneways and yards

The prevalence of footrot is greatly increased during spring and sometimes autumn (depending on season and location) when the environment for the bacteria is warm and moist. However, the bacteria can only survive for a maximum of 7 days away from the foot even when conditions are favourable.

Infection does not spread when conditions are hot and dry as the bacteria dies rapidly.

### What does it look like?

Clinical signs of footrot vary greatly depending on the virulence of the bacteria. Signs can differ from slight inflammation of the skin between the digit and toes known as the interdigital skin to the separation of the horn from the foot.

Inflammation and reddening of the interdigital skin and shedding of the surrounding hair are the first signs that footrot may be present. This is usually followed by the development of grey scum which can produce a foul smelling odour. For benign or mild strains of footrot this is normally as far as the disease will develop.

In more aggressive strains the skin-hoof junction will begin to erode lifting the horn from the sole and eventually causing the horn to remove from the foot. This causes suffering for the animal and hinders animal productivity.

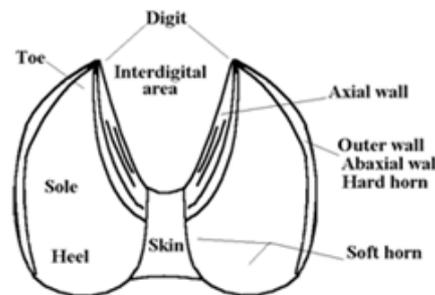


Figure 1. Parts of a sheep's foot



Normal Foot

Photo: Coopers Animal Health



Mild case of infection. This can often be the start of virulent strains of infection. Photo: Coopers Animal Health



Separation of the horn from the foot in aggressive cases.

Photo: Coopers Animal Health

## Management of Footrot

Footrot can easily establish in a flock, usually with the introduction of new sheep onto the property. If infection occurs you can reduce the spreading and severity of existing infection by:

- Isolating infected stock from remaining mobs.
- Footbathing in formalin or zinc sulphate every 7-10 days or with Radicate® every 12-16 days.
- Antibiotics which are prescribed by your local veterinarian, paying particular attention to withholding periods before sending sheep to slaughter. Sheep must be kept on a dry surface for up to 12 hours after antibiotics are given.
- Paring the feet to expose infection to help increase response to footbathing and antibiotics.
- Culling of severely infected sheep that fail to respond to treatment. In aggressive cases culling may be the only option even before treatment is delivered.
- At this point there are no commercially available footrot vaccines in Australia

## Footbathing

Footbathing is a common method in controlling the spread of footrot in a flock. Footbathing helps accelerate the healing of lesions among infected sheep and aid in reducing the spread of the disease through a mob. Footbathing does not eradicate the disease from the property. It acts as a control measure for existing outbreaks and as a preventative measure in reducing the development of the disease through the introduction of new sheep onto the property. This method is most effective when correct

## Take Home Messages

- Footrot is a serious and common infectious disease which affects sheep, goats and occasionally cattle.
- The prevalence of footrot is greatly increased during spring and autumn when the environment for the bacteria is warm and moist.
- Culling is the best approach for eradicating the disease from the property however treatment should be applied during the spread period to reduce the number of sheep needing to be culled.

treatment protocols are followed and used in conjunction with another control treatment such as antibiotics.

Footbathing can be very time consuming and impractical during the spring spread season. It is not ideal for ewes with lambs as it can increase the chances of mismothering and therefore impact on productivity.

Best-practice methods for footbathing:

- 10% Zinc Sulphate is used (1kg to 9 litres of water) as a walk through or standing for 5-10 minutes in the solution. Sheep are treated every 7 days.
- 5% Formalin mixed with water allowing sheep to walk through or stand in solution for 5-10 minutes. Sheep are treated every 7 days. Zinc sulphate is recommended as it is a safer chemical to handle than Formalin which can also cover foot lesions developed in carrier sheep increasing the risk of further spreading.
- Radicate® solution allowing sheep to stand in solution for at least 15 minutes and be able to stand on a dry surface (such as grating or dry concrete) for a further 15 minutes after treatment. Radicate is less time consuming as it offers protection for up to 2 weeks, however can increase treatment costs.
- Read label directions before using any of the above treatments.

## Eradication

Before considering an eradication program, determine which strain of footrot is infecting your flock. Consultation with your local vet is highly recommended to determine if your flock is infected with a benign or virulent strain of footrot. If your flock is infected with a benign strain the management options may differ from virulent footrot and an eradication program may be unnecessary.

Response to treatment is best achieved when more than one treatment option is applied. Culling is the best approach at eradicating the virulent



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## Prevention

Prevention is the best measure of controlling the disease. Preventive measures should be taken to reduce the risk of introducing the disease onto your property or reinfection. Preventive measures include:

- Purchasing sheep from clean flocks and examining feet for lesions, lameness and signs of treatment before purchase.
- Don't assume your sheep are free of footrot because their feet look healthy. They may be carrying a strain of footrot which has not yet developed.
- Requesting the vendor to supply a Sheep Health Statement stating that livestock and property are free of virulent footrot is a good way of identifying clean flocks.
- When selecting sheep for purchase, if possible, allow sheep to drift quietly past and observe any lameness. Tight penning or sheep that are stirred up and run past allow lameness and signs of footrot to be disguised.
- When trucking stock ensure that the truck is clean, enquire about the health of recent loads and if in doubt insist that the truck is washed before transportation of your stock.
- Isolating newly purchased sheep, examining feet carefully again and running new sheep through a footbath. The safest option is to keep new sheep isolated through the spring and the remainder of the spread season to ensure no sign of footrot.
- Reducing the chance of strays bringing in infection. Ensure all boundary fences are adequate. If strays are found, examine feet immediately, footbath and isolate. If your sheep stray into neighbouring property ask your neighbour to isolate and footbath any stray stock before their return.
- Reducing the chance of infection from shared roads by being aware of any signs that other sheep have travelled along your road. As the bacteria can only survive up to 7 days out of the foot, sheep should not be moved along roads that have been used by other sheep in the past 7 days.
- Consulting a veterinarian if unsure as to whether you have a footrot outbreak in your flock.
- Footrot and disease control legislation
- Virulent footrot is a notifiable disease in Victoria and falls under the disease control legislation. This means that:
  - An Inspector of Livestock must be notified of all outbreaks of footrot on your property
  - Infected sheep must be sold to slaughter only. It is illegal to sell infected stock other than for slaughter.
  - It is illegal to place footrot infected sheep in or nearby any public place including roads and saleyards.

- Control measures must be applied for infected sheep.
- Inspectors of Livestock have the right to restrict the movement of infected or exposed sheep and to ensure suitable treatment options are employed.

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For further information, please contact the VFF Livestock Group on 1300 882 833 or by email to [jacinta.pretty@vff.org.au](mailto:jacinta.pretty@vff.org.au)

## Further Links

### Victorian Department of Primary Industries

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/sheep/footrot>

### New South Wales Department of Primary Industries

[http://www.dpi.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0015/102381/footrot-in-sheep-and-goats.pdf](http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0015/102381/footrot-in-sheep-and-goats.pdf)

### Meat & Livestock Australia

<http://www.mla.com.au/Livestock-production/Animal-health-welfare-and-biosecurity/Diseases/Infectious/Footrot>

### Coopers Animal Health

<http://www.coopersanimalhealth.com.au/tt/sp/2910153902.pdf>

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