

## Footrot culture from sheep

### Background

Veterinary practitioners interpret clinical signs of lameness, such as interdigital cutaneous necrosis and underrunning of hooves, in conjunction with footrot culture and virulence testing for diagnosis of virulent footrot.

### Purpose

This Labfact outlines the method of sample collection and a brief overview of the culture method and virulence testing.

### Materials required

Footrot Transport Medium (available from the laboratory) and sterile swabs

### Selecting animals for testing

Sheep with evidence of clinical footrot e.g., interdigital cutaneous necrosis or under-running of the hoof, should be selected.

### Number of animals to be tested

At least 5 lame animals from each flock should be tested to maximise the recovery of the organism (*Dichelobacter nodosus*).

### Sampling procedure

Collect a generous amount of necrotic material on the swab and inoculate the swab into the footrot transport medium. Do not refrigerate the sample and keep the sample out of direct sunlight.

### Transporting samples

Ideally the swabs in media should arrive at the laboratory within 24 hours of collection. Please ship samples at ambient temperature.

**Do not use ice bricks.**

### Submitting samples

Submit samples to:

Animal Health Laboratory  
NRE Tas  
165 Westbury Road  
Prospect TAS 7250  
P: 03 6777 2111  
E: [specimenreception@nre.tas.gov.au](mailto:specimenreception@nre.tas.gov.au)

### Footrot culture at the laboratory

Due to the multiple culture steps and fastidious nature of the Footrot organism the following test turnaround times are a guide only.

Footrot (*Dichelobacter nodosus*) cultures are incubated and examined for between 2 and 4 weeks.

For sample submissions with a request for a virulence test, the positive cultures are tested for **elastase** activity, a marker of virulence. These test plates are incubated for up to a further 28 days.

Interpretation of elastase activity.  
(incubation time):

- Virulent strains degrade elastin within 12 days
- Intermediate strains degrade elastin within 12-21 days
- Benign strains may degrade elastin in greater than 21 days