



Footrot Culture

Footrot can cause severe disease in sheep and goats, and a mild form can be seen in cattle and deer. *Dichelobacter nodosus*, an anaerobic bacteria, is the causative organism of footrot, but cannot cause infection unless there is prior damage to the interdigital skin in the hoof. The first sign of footrot is lame sheep, although mildly affected sheep may not be lame. More than one hoof is usually affected. Inflammation starts in the interdigital skin and can progress to invasion of the germinal layer of the hoof, leading to full underrunning of the soft and hard horn. The lesion has a distinctive foetid smell and moist, white-grey, necrotic material is usually present on the surface of the soft tissue separated from the horn. *D. nodosus* can survive in moist soil for up to two weeks and is transmitted by contact with contaminated soil or pasture. An Australian study showed that field diagnosis of virulent footrot by hoof inspection has a sensitivity of 53% and a specificity of 77%; whereas microbiology had a sensitivity of 92% and specificity of 68%. Microbiology is used to confirm the field diagnosis.



Species:
Ruminants



Specimen:
Tissue scrapings



Container:
Modified Stuart's transport media



Collection Protocol:

Do not use media after the expiry date. Do not use media that has turned deep blue in color. Select early active cases [5 cases are usually adequate]. Collect a scraping from the moist interdigital area with a sterile scalpel blade. The creamy white dead tissue seen in the interdigital area provides the best sample. In advanced cases, take scrapings from the leading edge of the lesion. Inoculate the scraping into the top 1-2 mm of the transport media. Do not put swabs, scalpel blades etc. into the transport media. Swabs introduce oxygen into the media, thus reducing the survival of anaerobes.



Special handling/shipping requirements:

The sample should be transported to the lab within 24 hours of collection. *D. nodosus* is a slow growing fastidious organism. Delays in receipt of sample in the laboratory will significantly decrease the chance of successful isolation of *D. nodosus*.