

The prevalence of *Dichelobacter nodosus* in clinically footrot-free sheep flocks: A comparative field study on elimination strategies

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Key words

footrot, lameness, sheep, foot, *Dichelobacter nodosus*, *aprV2*, *aprB2*, sanitation program

Aim of the study

The aim of this study was to test for the presence of *D. nodosus* in clinically footrot-free sheep flocks which had been subjected to different sanitation strategies, to assess whether they were feasible for the eradication process, especially focussing on antimicrobial herd treatments.

Material and methods

Clinical scoring and PCR-results were compared. (i) Ten farms had used hoof bathing and hoof trimming without causing bleeding, (ii) ten farms had used individual treatments and flock vaccines to gain the free status and (iii) ten farms had become free through whole-flock systemic macrolide treatment. For every farm, three risk-based collected pool samples were analysed for the occurrence of virulent and benign *D. nodosus* by PCR detection of *aprV2/aprB2*.

Results and significance

Six flocks from any treatment group tested positive for *aprB2* in all pools. Clinical signs were absent at the time of sampling, but some flocks had experienced non-progressive interdigital inflammation previously. Two flocks tested *aprV2*-positive in the high-risk pool. One of them underwent a progressive footrot outbreak shortly after sampling. Individual retesting indicated, that virulent *D. nodosus* most likely was reintroduced by a recently purchased ram. In the second flock, a ram was tested positive and treated before clinical signs occurred. All sanitation strategies eliminated the causative agent and were found to be suitable for implementation in the PCR-based eradication process. PCR-testing proved to be more sensitive than visual scoring, as it also detected clinically healthy carriers. It will be of benefit as a diagnostic tool in elimination and surveillance programs.

Publications, posters and presentations

Kraft, A. (2019): The incidence of *Dichelobacter nodosus* in clinically footrot-free sheep flocks: A comparison of elimination strategies. Ontario Small Ruminant Veterinary Conference; 17.-19. Juni 2019, Guelph, Canada.

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