

Why are sheep lame? Temporal associations between severity of foot lesions and severity of lameness in 60 sheep

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Abstract

We investigated the temporal associations between the severity of foot lesions caused by footrot (FR) and the severity of lameness in sheep. Sixty sheep from one farm were monitored for five weeks. The locomotion of each sheep was scored once each week using a validated numerical rating scale of 0–6. All feet were then examined, FR was the only foot lesion observed; the severity of FR lesions was recorded on a scale from 0 to 4. Sheep had a locomotion score > 0 on 144/298 observations. FR lesions were present on at least one foot on 83% of observations of lame sheep but also present on 27% of observations where sheep were not lame; 95% of these sheep with a lesion but not lame had FR score 1. The results from a linear mixed model with locomotion score as the outcome were that the mean (95% CI) locomotion score of 0.28 (0.02, 0.53) in sheep with no lesions increased by 0.35 (0.05, 0.65) in sheep with FR score 1 or 2 and by 1.55 (1.13, 1.96) in sheep with FR score > 2 at the time of the observation; indicating that as the severity of the lesion increased, the severity of lameness increased. One week before an FR score > 2 was clinically apparent, sheep had a locomotion score 0.81 (0.37, 1.24) higher than sheep that did not have an FR score > 2 in the subsequent week. One week after treatment with intramuscular antibacterials the locomotion score of lame sheep reduced by 1.00 (0.50, 1.49). Our results indicate a positive association between severity of FR lesions and locomotion score and indicate that some non-lame and mildly lame sheep have footrot lesions. Treatment of even those mildly lame will facilitate healing and probably reduce the spread of infection to other sheep in the same group.

Keywords: animal welfare, footrot, lameness, locomotion, multilevel model, sheep