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Impact of rapid treatment of sheep lame with footrot on welfare and economics and farmer attitudes to lameness in sheep

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Abstract

This review article summarises the evidence for an effective management protocol for footrot to sheep, the welfare and economic benefits of such a protocol and its likely uptake by farmers. Over 90% of lameness in sheep in England is caused by Dichelobacter nodosus*, the aetiological agent of footrot. Farmers can recognise lame sheep both from video clips and when examining their own sheep but make a separate decision about whether to catch lame sheep. Only farmers who catch and treat mildly lame sheep immediately report a low prevalence of lameness (< 5%). From a within-farm clinical trial, treatment of sheep lame with footrot with parenteral antibiotic and topical spray led to over 90% recovery from lameness within 10 days whilst only 25% of sheep treated with foot trimming and topical spray recovered in 10 days. In parallel, a within-farm clinical trial with approximately 800 ewes was run for 18 months to test the hypothesis that rapid appropriate treatment led to reduced prevalence of lameness. Ewes were stratified and randomly allocated to one of two groups. The prevalence and incidence of lameness decreased in the treatment group, where lame sheep were treated with parenteral and topical antibacterials within three days of being observed lame, but remained at approximately 8% in the control group where lame sheep were treated with trimming hoof horn and topical antibacterial spray when the farm shepherd considered them sufficiently lame. Sheep in the treatment group had a higher body condition and produced more lambs that grew faster. The net economic benefit to all sheep (whether lame or not) in 2006 was £6 per ewe put to the ram. A group of 265 farmers were asked about their satisfaction with methods to manage footrot. Satisfied farmers reported a prevalence of lameness of ≤ 5% and used rapid individual treatment. Dissatisfied farmers reported a prevalence of lameness of > 5% and used whole-flock footbathing and vaccination. Overall, farmers stated that their ideal managements would be footbathing and vaccination. One explanation for this apparent inconsistency is that farmers want effective vaccines and footbaths; an alternative explanation is that this is an example of cognitive dissonance, where subjects adopt a belief because it is their current practice despite evidence that it is not effective. We conclude that farmers can identify lame sheep and that rapid treatment of individual sheep lame with footrot with intramuscular and topical antibacterials is currently the most effective control of interdigital dermatitis and footrot in sheep but that in future effective measures that prevent footrot would be ideal.*

Keywords: *animal welfare,* Dichelobacter nodosus, *footrot, lameness, sheep, treatment control*