Assessment of farmer recognition and reporting of lameness in adults in 35 lowland sheep flocks in England

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Abstract

The aim of this study was to assess the accuracy of farmer recognition and reporting of lameness in their sheep flock when compared with the prevalence of lameness observed by a researcher. Thirty-five sheep farms were visited. Farmers were asked for estimates of the prevalence of lameness in 2008, in the flock and in one group of sheep that was inspected by the researcher the same day. These estimates were then compared with the researcher’s estimate of lameness. All farmers were able to recognise lame sheep but they slightly underestimated the prevalence of lameness in the group selected for examination when compared with the researcher’s estimate. The proportion underestimated increased as the prevalence of lameness in the group increased. Farmer estimates on the day were consistently, closely and significantly correlated to that of the researcher’s estimate of prevalence of lameness. We conclude that farmer estimates of prevalence of lameness in sheep are a sufficiently accurate and reliable tool for risk factor studies. The prevalence of lameness in sheep, nationally, is probably higher than the current estimate of 10% by 2–3%.

Keywords: animal welfare, farmer reliability, lameness, recognition, reporting, sheep

Introduction

Lameness is an important cause of poor welfare in sheep, with up to three million sheep lame in the UK each year. Farmers in the UK list lameness as their top health concern after sheep scab (Morgan-Davies et al 2006). Lameness results in reduced bodyweight (Marshall et al 1991), poor body condition, increased mortality in lambs and ewes, increased numbers of barren ewes, an increased time to finish lambs (Wassink et al 2010a) and reduced wool growth (Stewart et al 1984; Marshall et al 1991).

Estimates of the prevalence of lameness in sheep flocks in the UK come from studies that have relied on farmer estimates. The period prevalence of lameness from a stratified random postal survey was 8% in 1994 (Grogono-Thomas & Johnson 1997) and 10.4% in 2006 (Kaler & Green 2008a). Researchers have also used farmer estimates of the prevalence of lameness to identify risk factors for the prevalence of footrot (Wassink et al 2003) and interdigital dermatitis (Wassink et al 2004), to investigate farmer satisfaction with management of lameness (Wassink et al 2010a) and the proportion of sheep lame with specific foot lesions (Kaler & Green 2008a). All these studies assume that farmers can both recognise lame sheep and that they report the prevalence of lameness in their flock accurately.

Research has shown that farmers underestimate the prevalence of lameness in dairy cattle considerably when compared with an independent observer, with farmer estimates of 5.7% compared with 22.1% (Whay et al 2002) and 6.9% compared with 36% (Leach et al 2010). Whilst there was a degree of correlation between dairy farmer and researcher estimates of lameness, farmers underestimated the prevalence of lameness by two- to seven-fold, with no consistent pattern to explain the variation in estimation. Whatever the underlying reason behind the inaccuracy of estimates of prevalence of lameness given by dairy farmers, it is clearly a concern that sheep farmers might also underestimate the prevalence of lameness. Were they to do so to the same extent as dairy cattle farmers, then the true prevalence of lameness in UK sheep flocks would be as high as 31–52%.

In a recent study, sheep farmers correctly identified non-lame sheep and sheep lame with locomotion score 2 to 6 (Table 1), when studying video clips of sheep standing and walking (Kaler & Green 2008b). From this study, the authors concluded that sheep farmers recognise lame sheep in videos, even when their locomotion is only mildly abnormal (score 2) but that they made a separate decision on whether to treat lame sheep. However, the authors concluded that they did not know whether farmers identified lame sheep in their flocks as they did in video clips.

The aims of the current study were to investigate whether a farmer’s estimate of prevalence was correlated to the true prevalence of lameness in their flock. In addition, we do not know whether the figure a farmer gives for the flock prevalence of lameness includes all severities of lameness or only university