Temporal changes and risk factors for foot-pad dermatitis in Danish broilers

Foot-pad dermatitis is a major welfare concern of broilers caused by ammonia irritation from the bedding material. In Denmark, an action plan to control the condition was implemented in 2002 with monitoring through a foot scoring system at slaughter and with predefined limits that trigger sanctions. The objective of the present study was to study time trends and to identify predisposing factors on the flock lesion scores. The analysis was carried out on a database created by merging abattoir lesion data with antemortem evaluation data, and the flock productivity database managed by the farmers’ association. The database had a record for each flock and variables containing information on both flock foot-pad scores and a range of management factors. We observed a dramatic decline in flock lesion scores between the years 2002 and 2005 followed by a minimal decline hereafter. Mean flock lesion scores differed between abattoirs, and subsequent analysis was performed in a mixed effect model where abattoir was considered a random effect. The analysis showed that flock lesion scores increased when the litter quality was evaluated as poor during the on-site antemortem evaluation. Other significant risk factors were winter season as opposed to summer, low daily weight gain, straw as bedding material in contrast to wood shavings and sphagnum peat, and high age at slaughter. Stocking density was only weakly associated with flock lesion scores.

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