The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

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Measuring foot-pad lesions in commercial broiler houses. Some aspects of methodology

IC de Jong, J van Harn, H Gunnink, A Lourens and JW van Riel*

Wageningen UR Livestock Research, PO Box 65, 8200 AB Lelystad, The Netherlands
* Contact for correspondence and requests for reprints: Ingrid.dejong@wur.nl

Abstract

For monitoring purposes there is a need for a protocol to measure foot-pad dermatitis (FPD) on-farm. Therefore, we studied the effect of number of birds sampled, number of locations sampled and sampling location in a broiler house on the accuracy of measurement, in order to construct a protocol that can be applied in practice. Samples were taken from eight commercial flocks (Ross 308) at up to ten locations with up to 25 birds sampled per location. Foot-pad lesions were scored in all birds for both feet using the Swedish scoring method. No significant differences in FPD score were found between the first five birds and all birds sampled at a particular location. Although locations near the walls did not differ in FPD score from locations in the central area of a house, the severity of foot-pad lesions was unevenly distributed over the house. A model was constructed showing the inaccuracy related to the number of locations sampled in the house and the number of birds sampled per location. The model shows that in situations with at least five locations differences in inaccuracy are relatively small when a total of 100 birds or more is sampled. Inaccuracy is largest in a flock with variation in foot-pad scores, as compared to flocks with little variation. The results of this experiment can be used to determine the optimal sample size in a commercial broiler house.

Keywords: *animal welfare, broiler, foot-pad dermatitis, inaccuracy, on-farm monitoring, sampling method*