

Development of possible alternative measures under the principle 'appropriate behaviour' in the Welfare Quality® broiler protocol

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There is debate on the validity of behavioural measures within the Welfare Quality® broiler protocol. The Qualitative Behaviour Assessment (QBA) as a measure of 'positive emotional state' has not been validated for broilers, and assessors find it often difficult to assign descriptions of emotional states to broiler flocks. The touch test, assessing the 'human-animal relationship', turned out to be related to locomotion score. The aim of the current experiment was to (1) study whether simple behavioural measurements can be a suitable replacement of the QBA in the WQ broiler protocol, and (2) to study whether or not we could identify alternative measures of fear in broiler chickens. Here we report the results of (1) and the methods of (2). With respect to (1), four existing data sets of scan sampling of behaviour in commercial flocks (fast and slower growing broilers) were analysed to determine whether or not a reduced set of observations could be defined that would be predictive of flock behaviour. Behaviours ('active' (sum of different behaviours), foraging, dustbathing, comfort behaviour) were analysed as dependent variables in a logistic regression model with binomial distribution. Different models were used, taking into account effects of observer, location and time of the day, and separately the effect of number of scans. Results showed that 'active' composed of walking, standing and foraging, gave the smallest observer effect. Scan effects were found for all behaviours, except for 'active' composed of standing, walking and running. Large effects of location (wall and centre) and time of the day were found, suggesting that these should be taken into account. Dustbathing, comfort and foraging behaviour had low frequencies, large variation and needed higher number of scans and/or longer habituation for a reliable outcome. It is therefore questionable if these behaviours would be useful for inclusion in the WQ protocol.