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Welfare Quality[®] parameters do not always reflect hen behaviour across the lay cycle in non-cage laying hens

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Abstract

The integration of outcome-based measurements to animal welfare assessment programmes can provide a new perspective on the individual animal's experience. Identifying variability in individual experiences can facilitate understanding of animals at the periphery of the welfare spectrum, compared to those at the average. Welfare Quality[®] physical measurements and behavioural observations were taken from the same fifteen non-cage laying hens throughout their production cycle. The average amount of time performing each of nine behaviours and the amount of variation in each behaviour's performance was compared at four different ages: 19, 28, 48 and 66 weeks. The same analysis was performed for all Welfare Quality[®] physical measurements. To identify associations between a hen's behaviour and her physical condition, a cluster analysis was performed for all ages, as well as on data collated from all ages. No differences were observed among the four ages for the average amount of time performing many of the behaviours, but the amount of variability differed for most behaviours observed. Physical measurements taken at 19 weeks differed from those taken at later ages. Bodyweight consistently clustered with time spent preening, yet the patterns of clustering differed at each age. These results highlight the importance of age when conducting welfare assessments. Auditors also should report not only the average, but the variability of responses; while the average response of the flock may appear consistent across time or treatment, differences among the hens within the same flock may vary drastically.

Keywords: animal welfare, behaviour, group welfare, laying hen, outcome-based measures, Welfare Quality[®]