

RELATIONSHIP BETWEEN LAMENESS AND BODY WEIGHT IN BROILER CHICKEN

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Producing heavier animals is considered advantageous in terms of productivity and profitability. This strategy, on the other hand, leads to an unbalanced situation, where monetary gains are prioritized in detriment of animal welfare. Lameness constitutes an important welfare issue for broiler chickens, and is often related to the rapid growth rate of the modern artificial lineages. The objective of the present work was to evaluate the relationship between walking ability and body weight of 200 Cobb® broilers and to study the effects of this interaction on productivity. Male birds were selected from two flocks housed in standard acclimatized aviaries in southern Brazil, at 43 days of age, and distributed into four groups according to their gait scores (2, 3, 4 and 5) until each group contained a total of 50 animals. Gait scores were defined according to an established method (Garner et al., British Poultry Science, 43:355-63, 2002), where score 0 reflects an animal with no degree of impairment and scores 5 indicate birds that cannot walk at all. Animals were then weighed and returned to the flock. Analysis of variance revealed significant differences ($P < 0.05$) on body weight between birds with different gait scores, where birds with scores 2 and 3 were equally heavier (3.02 ± 0.21 kg and 3.17 ± 0.20 kg, respectively) than birds with scores 4 (2.59 ± 0.47 kg) and 5 (2.11 ± 0.50 kg). Regression analysis showed a cubic interaction ($P < 0.01$) of body weight and walking ability, indicating that lameness is a multifactorial problem and might be expressed in two concurrent scenarios: as a consequence of rapid growth rate and exaggerated weight combined with weak bone structure, or as an early problem which leads to changes on feeding strategy and impaired growth. Regression also allowed a prediction of productivity loss due to percentage of birds showing scores 4 and 5, which would be around -358.6 kg per aviary, based on recently published prevalence of birds with gait scores 4 and 5. Besides the pain and discomfort experienced by the animals, severe lameness also seems to cause relevant negative impacts on production efficiency. Thus, our work confirms that severe lameness is strongly related to body weight and should be given higher priority on future husbandry and artificial selection strategies.