

Impact of locomotion characteristics on broiler chickens well being

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The objective of this study was to evaluate the impact of lameness on broiler well being. Forty male broilers 28, 35, 42, 49 days old were randomly chosen at a commercial poultry farm and used in the trial. Immediately after arrival at the experimental site the birds rested for 40min and water was given to them. We are evaluating the pressure when walking and the way in which the chickens walk, before and after the administration of an analgesic. For this a system of capitation of the pressure and image of the birds was used walking. The gait scoring system for broilers developed by (Weeks et al, 2000; Garner et al, 2002; Corr et al, 2007)] was used to evaluate the leg problems, and the methodology consisted in empirical observation of locomotion factors. In this experiment a gait score (GS) was given to each bird using the scale 5 to 0 (5=lame bird; 0=sound bird) by a single person after watching the birds walk. The experiment consisted in getting information recorded on the walking ability of the birds on the FMPS. After stimulated to walk on the FMPS and arriving in the opposite side, the birds were given orally a quick-acting analgesic solution of metanizole sodium, which is a non-steroidal anti-inflammatory drug (NSAID). The time of drinking the NSAID and resting lasted 40min (Bizeray *et al.*, 2000). Afterwards the birds were stimulated to walk again on the FMPS in the same order as before. The birds were allowed to move freely across the runway, as gait variables are most repeatable in subjects walking at their natural speed. Immediately after the feet force measurement procedure, the birds were slaughtered, and post-mortem examination was carried out in all birds to determine femoral degenerative lesions in both joints. The statistical analysis consisted in ANOVA and t-test (95% confidence interval). The force measurement runway results detected a significant difference in the values of force attributed to leg left and right in both conditions ($P<0.05$), and also a significant increase in the results of plantar force ($P<0.01$), indicating that the heavier birds which were more severely affected by lameness (49-42days of age) showed a slight improvement in walking ability, when the pain was reduced by the effect of the analgesic drug intake. Leg disorders may affect the walking ability of broilers after the 28days of age. Standing and moving may cause increasing pain and discomfort especially in broilers from 49-35days of age.

Keywords: broiler, leg abnormalities, welfare, pain, feet force