Fear and stress reactions, and the performance of commercial broiler chickens subjected to regular pleasant and unpleasant contacts with human being

ABSTRACT

An experiment was conducted to determine the effects of regular pleasant and unpleasant contacts with human beings on tonic immobility (TI) response, heterophil to lymphocyte ratio (HLR), body weight, feed conversion ratios (FCR) and mortality in commercial broiler chickens. The following treatments were applied from day 1 to day 21: (1) non-handled controls received no physical or visual contact with humans other than the routine husbandry (control), (2) chicks in the pleasant physical contact group were picked up individually, and stroked gently for 30 s once daily in their home pens (PPC), (3) chicks in the unpleasant physical contact group were picked up individually, suspended by both legs and swung gently for 30 s once daily in their home pens (UPC), (4) a chick in the pleasant visual contact group was randomly caught, picked up and stroked gently for 10 min twice daily (PVC), and (5) a chick in the unpleasant visual contact group was randomly caught, picked up, suspended by the legs, and swung gently for 10 min twice daily (UVC). The PVC and UVC treatments were done in the chicksô home pen to allow other birds in the flock to view the procedure. On day 45, 180 chicks were transferred from their home open-sided floor pens to three-tiered battery cages with wire floors in an environmentally controlled chamber. TI (18 birds per treatment on each occasion) and HLR (18 birds per treatment on each occasion) reactions were measured pre- and post-transfer. There was no significant time of transfer×treatment interaction for all the parameters measured. TI and HLR responses were reduced in PPC and PVC birds compared with the control group. The UPC and UVC treatments had no effects on TI duration but the former had lower HLR than controls. While the translocation from home floor pens to battery cages elevated HLR, TI reaction was not affected. Subjecting birds to PPC improved body weight and FCR on day 46. Neither body weight nor FCR was affected by UPC, PVC, or UVC. Human contact treatment had no effect on mortality. It was concluded that both PPC and PVC were equally effective in reducing underlying fearfulness and physiological stress response, and the former can improve the performance of broiler chickens. The UPC and UVC treatments had no adverse effects on underlying fearfulness, stress reaction and performance.

Keyword: Broiler chickens; Physical contact; Visual contact; Fear; Stress; Performance