

Effect of light colour on the behaviour and performance of broilers

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The aim of the present study was to investigate the behaviour and performance of male and female broilers reared under three different colours of light (white, blue or red) in a 20L:4D of lighting programme. Day-old broiler chicks were obtained and assigned to six pens (16 males and 16 females per pen). Two pens were located in each of three different rooms in an environmentally controlled shed and received the different light colours. All birds received similar husbandry conditions. The behaviour observations (pecking, resting, standing and walking) were made on six focal birds per pen, representing the sex ratio, by direct visual scans for 40 minutes daily for five days a week throughout the 5-week study. Body weight and feed intake were recorded at weekly intervals. On day 33, welfare indicators (tonic immobility reaction, gait scores, foot pad and hock burns scores) were determined. Performance and percentage data were converted to degrees before being analysed by ANOVA. Light colour had no effect ($P>0.05$) on the weight gain and feed intake of broilers, but significantly ($P<0.05$) influenced the feed conversion ratio. Birds receiving the blue light were more ($P<0.05$) efficient than those receiving white and red lights. Resting was observed to be the major behaviour pattern, irrespective of sex or light colour. During early growth, pecking behaviour was higher ($P<0.05$) in birds receiving red light. In general, the effects of colour treatments on welfare indicators were inconsistent. These data indicate that light colour can influence broiler performance and behaviour.

Keywords: broiler behaviour, performance, welfare, light colour