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Effect of partial comb and wattle trim on pullet behavior and thermoregulation

The comb and wattles of a caged chicken are sometimes trimmed to prevent tearing by equipment. The blood vessels of the comb and wattles facilitate conductive heat exchange during temperature extremes. Our objective was to determine whether trimming the comb and wattles affected behavior, feed consumption, BW, and the surface temperature of the pullet. The comb and wattles of White Leghorns were trimmed at 21 d of age using scissors (n = 6 cages) between 0938 to 1037 h, while the remaining 6 cages of 13 chicks each served as intact controls. Thermal images (conducted at 1300 h) of the chick's comb, wattle, beak, eyes, and shanks were taken, and behavior was measured 3 d prior to, on the day of, and 1, 2, 4, 6, 8, and 11 d post trim. The proportion of chicks per cage feeding, drinking, standing, sitting, preening, and running was recorded using instantaneous scan sampling observations made every 5 min at 0800 to 0900, 1200 to 1300, and 1500 to 1600 h. Feed utilization from 21 to 28 d and 28 to 36 d of age and group BW of chicks at 21, 28, and 36 d of age were measured per cage. Data were analyzed using ANOVA with repeated measures. Proportionally, trimmed chicks were observed feeding less and sitting more on the day of the trim as compared to the controls, but by d 4 post-trim, trimmed chicks were feeding more and sitting less (treatment by age interaction, P = 0.03 and 0.0001, respectively). The proportion of chicks standing only differed on the day of the trim with fewer trimmed pullets standing as compared to controls (66.2 vs. 77.2%, SEM = 1.9, treatment by age interaction, P = 0.0002). The other measured behaviors as well as BW, feed utilization, and chick surface temperature did not differ between treatments. Behavioral indices suggested that pullets subjected to partial trimming of the comb and wattles experienced stress perhaps due to pain on the day of the trim; however, they quickly recovered by returning to normal behavior by 1 day following the trim. The change in behavior on the day of the trim had no long-term impact on feed consumption, growth, or thermoregulation as measured through infrared thermography.

trimmed comb, trimmed wattle, pullet, behavior, thermography