

EFFECT OF STOCKING DENSITY DURING BROODING PERIOD ON GROWTH PERFORMANCES AND WELFARE CONDITIONS OF BROILERS: A CASE STUDY

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Stocking density is a vital factor in broiler production because of its influence on broiler health, welfare, and performance. Present study was undertaken to assess the effect of stocking density during brooding period on growth performances and welfare conditions of broilers. Seven hundred and eighty day-old broiler chicks were randomly stocked at four stocking densities (SD) at brooding period (1-7 days); T1 = 50, T2 = 60, T3 = 70 and T4 = 80 chicks m⁻². Stocking densities were reduced by half at the 2nd week of brooding period (8-14 days). There were three replicates per treatment arranged in a completely randomized design. Feed intake (FI) was obtained daily. Body weight was taken daily at the brooding period and weekly at the finisher period. Welfare was measured by using tonic immobility duration (TI) and plumage cleanliness. On the 35th day, the birds were slaughtered and the carcass weight and meat quality parameters were assessed. Feed conversion ratio (FCR), body weight gain (BWG) and dressing out percentage (DO%) were calculated. Significantly higher cumulative FI and mean BWG were observed in T1 compared to other treatments. However, FCR was not significantly different between treatments. Tonic immobility duration was significantly lower and plumage cleanliness was significantly higher in T1 compared to other treatments at the brooding period. Carcass weight and DO% were significantly higher in T1 compared to T2, T3 and the lowest ($p < 0.05$) values were recorded in T4. Treatment 1 recorded a higher profit per bird compared to other treatments. Thus, the lowest stocking density (50 chicks m⁻² from 1 to 7 days and 25 chicks m⁻² from 8 to 14 days) enhanced the growth performances, welfare conditions and provided a higher profit compared to other treatments. The study confirms that lower the stocking density, higher the growth performances and welfare conditions of broilers.

Keywords: Broiler management, Dressing out percentage, Feed conversion ratio, Plumage cleanliness, Tonic immobility