

EVALUATION OF CARCASS TRAITS AND MEAT QUALITY OF SLOW-GROWING PASTURE-RAISED CHICKEN IN SRI LANKA

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This study aimed to assess the meat production, carcass traits and meat quality of slow-growing pasture-raised indigenous chicken reared for meat purpose. Two treatments, semi-intensive pasture system (treatment) with six replicates and intensive system (control) with three replicates were used. The birds in the treatment were fed only 80% of the daily feed requirement while in the control, 100% was provided. Both were fed the same cereal-based starter/grower/finisher diets, based on age. Birds were slaughtered at the age of 81 days and data related to total carcass yield, yield of different meat cuts, and meat quality parameters were collected. Sensory attributes of meat samples were also assessed. Results showed that the total carcass yield of birds in control (954.42 ± 31.20 g) was significantly higher ($p < 0.05$) than the treatment (774.29 ± 22.06 g). Similarly, breast (203.39 ± 8.19 g vs. 164.08 ± 5.79 g), leg (287.58 ± 10.48 g vs. 226.57 ± 7.41 g), wing (119.24 ± 4.17 g vs. 102.81 ± 2.95 g), neck (51.89 ± 1.84 g vs. 41.01 ± 1.30 g) and back (229.38 ± 7.95 g vs. 178.70 ± 5.62 g) weights were significantly higher ($p < 0.05$) in control compared to treatment group. The lower performance observed in birds under pasture-raised systems may be due to the energy they spend moving within the run area during the daytime. The water holding capacity, pH and L* value was not significantly different but a* and b* values of the meat of the treatment group (5.48 ± 0.28 and 13.17 ± 0.41 , respectively) were significantly higher ($p < 0.05$) than the control (4.24 ± 0.39 and 11.22 ± 0.58 , respectively). Results of the sensory evaluation revealed that there was no significant difference in appearance, odour, taste, tenderness and overall acceptability among broiler and slow-growing chicken meat. Even though the production is higher in control since there is no difference in sensory and meat quality attributes, it is possible to find a niche market for a more animal-friendly pasture-based production system.

Keywords: Cereal-based diet, Intensive system, Semi-intensive system

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