

COMPARATIVE ASSESSMENT OF BROILER CARCASS CHARACTERISTICS AND MEAT QUALITY UNDER OPEN AND CLOSED HOUSE SYSTEMS

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The study aimed to compare the response of broiler chickens reared under the opened and closed house systems of broiler management on carcass characteristics and meat quality. Broiler birds (Cobb500, 35±2 days old, n=20 per replicate) received at the slaughterhouse from ten farmhouses equally representing both open and closed house systems were randomly selected for the study. The live weight of the birds was recorded and once carcasses were eviscerated, dressing percentage, chilled yield, and individual cut yields were measured. The separated breast meat from each replicate was used to analyse the physicochemical characteristics; pH, water holding capacity, cooking losses, and sensory attributes. The parametric and non-parametric data were analysed by the pooled T-test and Wilcoxon signed rank test, respectively. Results showed that broilers from the closed-house had a significantly higher ($p<0.05$) dressing percentage (75.3±0.8% vs 73.1±1.6%), chilled yield (85.4±1.7% vs. 81.8±2.8%), wings yield (9.6±0.3% vs 8.3±0.9%) and whole legs yield (29.4±1.7% vs. 27.5±0.6%) compared to that from opened house birds. However, the breast yield (28.5±0.8% vs. 27.9±1.5%) was not significantly different ($p>0.05$) between housing systems. Broiler meat from the opened house showed significantly higher ($p<0.05$) cooking losses (17.5±0.5% vs 16.2±0.4%) and pH (6.3±0.0 vs. 5.9±0.0), compared to the meat from closed house broilers. Significantly higher ($p<0.05$) water holding capacity (7.5±0.3% vs. 7.3±0.0%) of the meat was reported from the birds reared in the closed houses. Sensory attributes of the meat were not significantly different ($p>0.05$) between closed and opened house systems. In conclusion, rearing birds in a closed house system yields high and better meat quality.

Keywords: Cooking losses, Physicochemical traits, Sensory evaluation