

Comparison of Dressing Percentage and Meat Quality Traits of Broilers Reared under Different Housing Systems

J.A.S. Subhashini^{1*}, M.D. Umagiliya¹, G.M. Zoysa² and D.D. Jayasena¹

^{1*}*Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka*

²*Pussalla Meat Producers (Pvt) Ltd, Pussalla Road, Kosgama, Sri Lanka*

At present, open house and closed house systems take a major position for broiler production and no scientific studies have been conducted on dressing percentage and meat quality traits of broilers reared under these housing systems in Sri Lankan context. Therefore, this study was performed to compare the dressing percentage and meat quality traits of broilers reared under the open house and closed house systems. Ten birds from each housing system were selected randomly at the slaughtering line in a commercial broiler processing plant. Dressing percentages and physicochemical and sensory quality traits were determined. Sensory evaluation was conducted using a 7-point hedonic scale and 30 untrained panelists for appearance, color, flavor, aroma, juiciness, texture, mouthfeel, and overall acceptability. Results showed that broilers from the closed house had a significantly higher dressing percentage (82.95%) than those from open houses (79.50%) ($p < 0.05$). Higher protein content (23.08%), pH value (6.62), cooking loss (32.12%), hardness, gumminess, and chewiness while a lower water holding capacity (75.80%) were observed in meat from open house system compared to that from closed house system ($p < 0.05$). Further, thigh meat showed significantly higher moisture content (77.27%), fat content (3.37%), a^* value (11.52), pH value (6.65), and cooking loss (31.93%) and lower protein content (19.16%) and L^* value (58.13) than breast meat ($p < 0.05$). Sensory evaluation results showed no significant difference between meat from the two systems ($P > 0.05$). In conclusion, dressing percentage and physicochemical properties were affected by the housing system and the anatomical location of meat. But, the sensory properties of both breast and thigh meat were not affected by housing systems.

Keywords: Open house, Closed house, Sensory, Cooking loss