

PHENOTYPIC CHARACTERIZATION OF VILLAGE CHICKEN (*Gallus gallus*) IN CENTRAL POULTRY RESEARCH STATION, KARADAGOLLA

**A.G.S.N. Abeykoon¹, U.G.V.S.S. Kumara², L.G.S. Lokugalappatti³ and
A.M.J.B. Adikari¹**

¹*Department of Animal and Food Sciences, Faculty of Agriculture,
Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

²*Veterinary Research Institute, Gannoruwa, Peradeniya, Sri Lanka.*

³*Department of Basic Veterinary Sciences, Faculty of Veterinary Medicine and
Animal Science, University of Peradeniya, Peradeniya, Sri Lanka.*

A study was conducted to phenotypically characterize various types of village chicken (*Gallus gallus*) present in Central Poultry Research Station, Karadagolla. Qualitative and quantitative traits were analysed following the Food and Agriculture Organization guidelines. A total of 77 (female = 68, male = 9) adult birds representing, eight distinct phenotypic groups were used in the experiment. Qualitative traits such as characteristics of plumage colour, skin colour, shank colour, ear-lobe colour, comb type, and eye colour were recorded and quantitative traits included body weight, body length, circumference of the chest, shank length and wing span. Production characteristics such as average egg production, average egg weight, egg shape index, average weight of day-old chicks, hatchability% and fertility% were recorded under the same management conditions. Data were statistically analysed by General Linear Model using SPSS and Chi-square test using SAS. From the qualitative traits, only plumage colour, shank colour and comb type varied significantly ($p < 0.05$) among the phenotypic groups. Live body weight was significantly ($p < 0.05$) differed among phenotypic groups. The highest average egg production was recorded in group 3 (6.8 eggs day⁻¹). The highest average egg weight (49.55 g) and the highest average weight of day-old chicks (31.25 g) were recorded in group 6. The highest percentages of hatchability and fertility were recorded in group 1 (85.78% and 93.75%, respectively). The Principal Component Analysis (PCA) showed that phenotypic group 1 was isolated from all other groups. Thus, it can be concluded that three different phenotypic diversity groups are distinguishable from the studied village chicken population. Further, this information could be used for the improvement of their breeding plans and production.

Keywords: Phenotypic characterization, Qualitative traits, Quantitative traits,
Village chicken