

Study on Growth and Performance of Three Indigenous Village Chicken Types (Small, Medium and Heavy) at the Central Poultry Research Station, Karandagolla, Kundasale

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Although Sri Lankan indigenous chicken (*Gallus gallus*) are providing a valuable protein source, unique genetic resources to the country, proper evaluation and utilization remains at a minimum level. Therefore, the present study was aimed to upgrade indigenous chicken population through selective breeding. Indigenous chicken population available in Central Poultry Reach Station were divided into three groups (small, medium and large) based on the weight. Information on body weights, lengths and heights were obtained from 549 chicks, pedigree of small ecotype, medium ecotype and large ecotype sires and dams were taken from the above farm. Semen was collected from each group of males and collected semen was inseminated to selected female groups. Collected eggs were incubated and two hatches were obtained. Data were collected from two hatched groups chicks, these chicks were identified individually from birth, by using numbered wing-bands, and weighed. Parents and chicks were fed by using commercial diets. Data on day old weight, body weights, lengths and heights at 1, 2, 3, 4, 5, 6, 7 and 8 weeks of age were analyzed by (ANOVA); General Linear Model procedure by using three ecotypes. Ecotype had a significant ($P < 0.05$) effect on overall body weight gain per bird and mean body weight from day old to 8 weeks of age. The highest body weight gain per bird was recorded for large ecotype chicks. Among the ecotypes, small and medium had the smaller body weight gains while large ecotype had larger weight gains. The result from the analysis of variance showed a highly significant ($P < 0.05$) difference on length gain per bird, mean length and height had a significant ($P < 0.05$) effect on overall height gain per bird and mean height gain per bird from day old to 8 weeks of age. Three ecotypes were similar in weight, height and length from day old to 1st week. Ecotypes for 2nd week to 8th week of age weight, height and length were differed. Large ecotype chicks were shown high growth and performance among three ecotypes with regard to height, length and body weight.

Key word: Ecotype, Dam, Sire, Heritability, Pedigree