

***Ex situ* Improvement of Indigenous Chicken in Bangladesh**

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ABSTRACT. *This work is part of a long-term selection program is being undertaken (i) to assess the performance of three indigenous chicken genotypes under intensive management and (ii) to predict responses while improving 3 indigenous chicken genotypes. A total of 5945-day-old chicks comprising of 3 types of indigenous chicken namely Naked Neck (NN), Hilly (H) and Non-descript Deshi (ND) were hatched for foundation generation (G₀), first generation (G₁), second generation (G₂) and third generation (G₃) for this study. In every generation, selection was practiced at 40-week of age on the basis of an index comprising the parameters of age at first egg (AFE), body weight (BW), egg production (EP) and egg weight (EW). The average body weights of ND, H and NN were 1074±4.0, 1279.6±5.5 and 1041.0±5.7g, respectively at the age of 16 weeks. The mean daily weight gain of Indigenous Chicken at 0-8, 0-12, 0-16 week and 0-maturity were 7.8±0.02, 9.4±0.02, 9.8±0.02 and 8.2±0.03g, respectively. The lowest hatchability was found in NN genotype (77.5%). The average egg production number of ND, H and NN were 83.9±1.1, 76.2±1.4 and 74.0±1.5, respectively. Among the three indigenous chicken types, ND had significantly (p<0.001) higher average number of eggs in a certain period than H and NN genotypes. In terms of body weight, H genotype was superior. Based on the performance of the four generations, the study revealed that H genotype to be a good base population for improving meat production and Non-descript Deshi chicken for improving egg production.*

Keywords: *Economic traits, ex situ selection, indigenous chicken*

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