

Estimation of genetic parameters for growth performance and egg production traits in TLRI K11 chicken ⁽¹⁾

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Abstract

The purpose of the study was conducted to evaluate the genetic parameters for TLRI K11 chicken of Livestock Research Institute which had the homozygote of HSP70 and PRLR gene. 1,155 of TLRI K11 chicken were cumulatively surveyed and collected for growth performance and egg product traits in seven generations. The results showed that the heritability of the body weight at hatch (BW0), body weight of 16 week of age (BW16), the average number of eggs laid up to 40 weeks of age (EN40), average egg weight at the 1st egg (FEW), average body weight at the 1st egg (BWAFE) and age at the first egg (AFE) were 0.509, 0.326, 0.352, 0.164, 0.649 and 0.487, respectively. The genetic correlation analysis showed that BW0 had a high positive genetic correlation with BW16 ($r_g = 0.966$). FEW had a high positive genetic correlation with AFE and BWAFE ($r_g = 0.695$; $r_g = 0.600$), respectively. AFE had a high positive genetic correlation with BWAFE ($r_g = 0.604$), AFE and BWAFE had a high negative genetic correlation with EN40 ($r_g = -0.772$; $r_g = -0.604$). The results indicated that to selected TLRI K11 chicken for high EN40 heritability may directly select EN40 performance of chicken. We expected that data after selection of multi-generation for growth performance and egg number can further estimate the genetic responses of related traits for the basis of breeding and selection.

Key words: TLRI K11 chicken, Growth performance, Egg production traits.

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