

Determination of the Some IGF and IGFBP2 Polymorphisms and Their Association with Growth and Egg Traits in Atak-S Chickens

Authors : Huseyin Das, Bülent Tarim, Sunay Demir, Nurçin Küçükkent, Sevil Cengiz, Engin Tülek, Vecihi Aksakal

Abstract : Atak-S laying hens are a high-performance strain obtained by crossing of the Rhode Island Red (RIR) X the Barred Plymouth Rock (BR) and are being produced in the Ankara Poultry Research Institute since 1997. Phenotypic and genetic improving studies are continued for this strain. In this study, 2 from IGF and 1 from IGFBP2, totally 3 different SNP polymorphisms were examined in 200 Atak-S chickens. Genotypes of SNPs were compared using ANOVA to body weight and egg number thorough 32 weeks of age, body weight at sexual maturity, age at sexual maturity and also egg quality traits such as egg shell breaking strength, shell thickness, Haugh unit, albumen index, yolk index, shape index. Only IGF(a) locus was in agreement with Hardy-Weinberg equilibrium, while, the other loci were not. As a result of the performance comparisons to the 3 SNP loci, it was determined that there has a significant association ($P<0.05$) between only TC genotypes of the IGF(b) locus and body weight at 32 weeks of age, but there was not any association to the other traits.

Keywords : Atak-S, Igf, Igfbp2, single nucleotide polymorphism

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