

Relationships of Endocrine Factors with Egg Productivity between Korean Native Ogol Chicken and Other Strain (Saver)

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The egg productivity of the chick is represented by the number of egg produced, egg weight, and sexual maturity, which are regulated by various endocrine factors. Although there were some reports that insulin-like growth factor-I (IGF-I) affected egg production, studies on any correlation between IGFs and egg productivity were not reported in poultry. The objectives of the present study were to examine the IGFs profile and egg productivity in both KNOC and laying hen (Saver) and to investigate the relationship of IGFs with egg productivity. Whole blood was collected every 10 wk until 60 wks. The concentrations of IGFs were measured by radioimmunoassay and the number of egg produced from 124 KNOC and 11 Saver was daily recorded. When the egg productivity between two strains was compared, a significant difference was detected. The concentrations of serum IGF-I/-II in Saver were higher than those in KNOC during laying period. In addition, the concentrations of steroid hormones in Saver were higher than those in KNOC at 40 and 50 wk. Collectively, these results indicate that the egg productivity are regulated by endocrine factors in chicken. In particular, the concentration of serum IGF-I is positively associated with the egg productivity in KNOC.

Key Words) *Endocrine factor, Egg productivity, KNOC, Saver*