

VARIATIONS IN EGG PERFORMANCE AND PLASMA CONSTITUENTS AT DIFFERENT AGES OF FEMALES JAPANESE QUAIL

By

Hanan A. Hassan

Poult. Dept., Fac. of Agric., Fay. Univ., Fayoum, Egypt.

Received: 13/05/2010

Accepted: 25/05/2010

Abstract: A total number of one hundred and twelve Japanese quail females at 6 weeks of age were used to determine the variations in egg performance and plasma constituents during different periods of production, and the phenotypic correlations among ages, egg number (EN), egg production (EP%), egg weight (EW) and egg mass (EM) and plasma constituents. At 8, 10, 14, 18, 22, 26 and 30 weeks of age, EN, EP%, EW, EM and plasma constituents (total protein, TP; albumin, Alb; calcium, Ca; Phosphorus, P; total lipids, TL; triglycerides, TG; cholesterol, glucose, aspartate aminotransferase, AST and alanine aminotransferase, ALT) were determined. The results obtained could be summarized as follows: 1- There were high significant differences in EN, EP%, EW and EM at different ages and the highest values were at 14 and 18 wks of age. 2- Highly significant increases were found in plasma constituents (TP, Alb, Ca, P, TL, TG and cholesterol) with age progressive. No significant differences were found in plasma glucose; however, the values of AST and ALT were fluctuated. 3- Highly significant positive phenotypic correlations were found of age and EN with each of TP, Alb, Ca, P, TL, TG and cholesterol. Similarly, highly significant positive phenotypic correlations were found between EP% and each of TP, Alb, Ca, TL, TG, cholesterol and AST. EM had high significant positive phenotypic correlations with Ca, TG, and cholesterol. However, no significant phenotypic correlations were found between EW and plasma constituents. It can be concluded that must use Japanese quail for egg production and meat production due to its superiority. And foundation of highly significant positive phenotypic correlations between egg performance and plasma constituents could be provide new strategy for selecting chickens for improving egg production