

INHERITANCE OF SOME PRODUCTIVE TRAITS AND THEIR RELATIONSHIPS WITH SOME BLOOD CONSTITUENTS IN JAPANESE QUAIL

By

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The present experiment was conducted to study the performance traits and their relationship with some blood plasma constituents. Also, to estimate the heritability and phenotypic and genetic correlation for these traits.

A number of 2654 females and males Japanese quails were taken and classified according to their body weight at 6 weeks of age ($\bar{X} \pm 1$ SD); into three categories being low, medium and high body weight. Blood samples were taken at 6, 13 weeks of age and at the end of 90 of egg production.

The results revealed that the high body weight group had matured early, high body weight at sexual maturity, increasing in egg number, egg production, egg weight and egg mass than the other groups. Also, heritability estimates for glucose, total protein, cholesterol, calcium and inorganic phosphorus were 0.15-0.74, 0.17-0.64, 0.61-0.84, 0.09-0.26 and 0.11-0.28 for these traits, respectively.

Highly genetically negative correlations estimates were found between glucose at 6 weeks of age and age at sexual maturity (-0.68) whereas positively correlated with the other egg production traits; ranged from 0.09 to 0.47. Also, positive correlations estimates between cholesterol at all studied periods with all egg production traits ranged from 0.02 to 0.95.

In conclusion, body weight at different ages and egg production trait were correlated with some blood constituents.

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