



## Thesis Abstract

### **Heritability and Correlation Estimates of Semen Characteristics and Reproductive Traits in Various Genetic Groups of Mallard Ducks (*Anas platyrhynchos* Linn.)**

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The study was conducted to estimate the heritability of and correlation among semen characteristics and reproductive traits in various genetic groups of Mallard ducks (Philippine Mallard, Pekin and Khaki Campbell). More specifically, the study aimed to a) evaluate semen characteristics such as semen volume, sperm motility, sperm concentration, semen pH, percent abnormal sperm, semen color and consistency; b) evaluate reproductive traits in terms of egg production, egg weight, fertility and hatchability; c) compare the semen characteristics and reproductive traits of the parental stocks with the F1 progenies; d) correlate semen characteristics and reproductive traits; e) estimate the heritability of semen characteristics and reproductive traits; and f) estimate heterosis of semen characteristics.

Data on semen characteristics were analyzed following a 3 x 4 factorial split plot in a completely randomized design (CRD) with the genetic groups as the main factor and the time of collection per week as the subplot factor. Data on percent fertility and heritability were analyzed following a one-way ANOVA in a completely randomized design (CRD).

The semen characteristics of the Philippine Mallard were found to be better than the Pekin and Khaki Campbell. Moderate to high heritability estimates were noted on sperm concentration, semen pH and semen volume. Semen volume was found to be negatively correlated with sperm motility and semen pH but positively correlated with sperm concentration. Semen pH was positively correlated with percent abnormal sperm. Relatively low heterotic effects were noted on semen characteristics.