



PHYSIOLOGICAL AND NUTRITIONAL STUDIES ON JAPANESE QUAILS

BY

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Department of Poultry Production

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(B.Sc., Agricultural Sciences, Poultry Production, Faculty of Agriculture, Fayoum University,
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ABSTRACT

The first experiment was conducted to evaluate the effect of TM during the incubation period and growth phase on physiological performance in Japanese quails. 840 fertilized Japanese quail eggs used randomly distributed on 7 Treatments and CONT. Each treat.has 105 fertilized eggs. After hatch, chicks from each Treat. Randomly distributed on 2 rooms throughout the growth period, the environmental temperature of the first room was 39°c in the first week and the second room with 34°c in the second week. After growth period the environmental temperature increased to 42°c for 1 hour to all Treatments. In all experimental Treatments were kept as possible under similar managerial and hygienic conditions.

The followed results were obtained:

The results showed that the TM during the incubation period significant effected on embryo weight and embryo status after the first 15 day from incubation period, the higher embryo weight was CONTTreat. and lower Treatments was (BC). Some Treatments were embryos completed genesis and moved as (CONT, B, AB, BA, CB) and some Treatments were embryos in completed genesis and don't moved as (C, BC, AC). Incubation period significant affected with thermal manipulation, the faster Treat.was (B) and the lasted was (C Treat.). Hatchability% significant affected by TM during incubation period, the higher was (AB) and the lower was (CB). TM during incubation and growth period significant effected on death percentage, when increased the environmental temperature to 39° c led to a higher death% in (C Treat.) and a lower death% in (BA Treat.), decreased the environmental temperature to 34°c led to a higher death % in (B Treat.) and a lower death% in (CB Treat.). After growth phase, environmental temperature increased to 42 °c and body temperature and respiratory rate were measured before and after increasing the temperature, the higher range of respiratory rate was in (C Treat. that was in 34 °c during growth phase) and the lower range was in (BC Treat. that was in 34 °c during growth phase), the higher range of body temperature was in (CB Treat. that was in 34 °c during growth phase) and the lower range of body temperature was in (B Treat. that was in 34 °c during growth phase)

An second experiment was conducted to study the effect of addition of GP on egg yolk and serum cholesterol and performance of Japanese quails. A total of 243 Japanese quails (*Coturnixcoturnix japonica*) aged nine weeks were chosen at random from a large flock. They were housed in cages (20cm×45cm×45cm)

and randomly allocated to 3 dietary Treatments. Each treat. Comprised 3 replicates of 27 quails(9 males and 18 females). Feed and water were provided for ad libitum intake, GP used by percentages 0,1 and 2% in a diets of Japanese quails. A photoperiod of 17 h was maintained. The experiment was conducted for 12 weeks. In all experimental Treatments were kept as possible under similar managerial and hygienic conditions.

The followed results were obtained:

Addition of GP significant effected on eggs weight, the higher eggs weight was when used 2% then 1% GP compared by CONT. There was no significant effect of GP on egg number, egg mass and feed intake but there was a significant effect of feed conversion ratio in the first and second month and there was a significant effect in third month. The results showed that some egg traits significant affected by addition GP to diets as EYI, EYW, ESW, EST but some egg traits not significant affected as ESI, EAW. Chemical composition analyze showed that GP significant effected on fat% which the lower fat% was when used 2% GP then when used 1% GP then the CONTTreat. and not significant effected on moisture%, protein% and ash%. Serum cholesterol significant affected by addition of GP, the lower cholesterol% was when used 2% GP then 1% GP then the CONTTreat.. Egg cholesterol significant affected by addition of GP, the lower cholesterol% was when used 2% GP then 1% GP then the CONTTreat..

Key words: incubation, growth phase, hatchability, GP, chemical composition, serum cholesterol, egg cholesterol and Japanese quails.

