Effect of adding different levels of Date Palm Pollen Powder to Feed on some Productive and Physiological Traits of the Japanese Quail (Coturnix japonica)

By
Bashar Ahmed Mohammed Lehmood

Abstract:

The present study was conducted at quail's farm of Agriculture College/University of Basrah for the period from 21/8/2016 until 10/12/2016 to evaluate the effect of adding different levels of Date Palm Pollen powder to diet on some productive, physiological traits of Japanese quail birds. The study was included (240) chicks aged one day old of brown colored quail with a mean body weight 7.45 g / birds. They were randomly distributed in to five treatments each treatment contained 48 chicks with three replicates each one 16 chicks, the treatments as the following: T1, T2, T3, T4 and T5 add date palm pollen powder to diet at (0, 250, 500, 750 and 1000 mg /kg). The results of the study indicated the following:

1- There was a significant increase in the final body weight and cumulative weight gain, and a significant improvement in the cumulative feed conversion efficiency of T4 and T5 compared with other treatments, while no significant differences were found in the amount of feed intake. The result showed that a significant decrease was found in the amount of water consumed and the ratio of water consumption to feed intake of T2 compared with other treatments.

2- The study showed early age of sexual puberty for both sexes in T5, as well as a significant decrease in male the weight of male T5 at the age of sexual puberty, While no significant differences in the weight female of sexual puberty, sexual maturity and the first egg.

3- There was significant increase in the relative testicle weight of male T4 and T5 compared with other treatments at age 30 and 60 days from study started, a significant increase in the relative weights of ovaries and oviduct female T5 compared with other treatments in both ages.

4- There was significant improve observed in the number of ovarian follicles for female ovaries T5 compared with other treatments and in both ages. Also

a significant increase in the diameter of ovarian follicles for female ovaries T3, T4 and T5 at 30 days and female T5 at age 60 days.

5- There was also a significant improve in seminiferous tubules diameter and germinal layer thickness of the male T4 and T5 compared with other treatments at the age of 30 days. While significant was found in these two traits male T3, T4 and T5 compared T1 و T2 at the age of 60 days. There was also a significant increase in the seminiferous tubules lumen diameter of the male T1 and T2 compared with other treatments and in both ages.

6- There was significant increase in testosterone in male serum T4 and T5 compared with other treatments at age 30 and 60 days from study started, the presence of significant was found in the estrogen in the serum T4 and T5 compared with other treatments and in both ages. the was significant in males and females T4 and T5 compared with other treatments in FSH at age 30 days and the superiority of T2, T3, T4 and T5 on the T1 at the age of 60 days. The results also showed a highly significant difference in LH hormone in male and female serum T5 compared to other treatments and in both ages.

7- There was a significant increase in the total protein and globulin in male and female serum T4 and T5 compared with other treatments at age 30 and 60 days from study started. There was a significant increase in albumin in male and female serum T1 compared with other treatments and in both ages. Also a significant decrease in H/L in the blood of males treated T5 compared with other treatments at age 30 days and decrease in the blood of males treatments T3, T4 and T5 compared with T1 at 60 day and decrease in H/L in the blood of female treatments T3, T4 and T5 compared with T1 at age 30 and 60 days from study started. A significant decrease in serum cholesterol, glucose, GOT and GPT was found in both male and female in expirmental treatments compared T1 at age 30 and 60 days from study started.

8- Highly significant difference in egg production (H.D%) and number eggs cumulative was showed in T4 and T5 as compared with other treatment at age 70 and 100 days from study started. It was observed that there was a significant increase in egg mass, mean weights of eggs produced and eggs shell thickness for birds T3, T4 and T5 compared with other treatments and in both ages.

9- The treatment T5 showed highly significant difference in the fertility, hatching percentage and the weight of the chick hatch compared with other treatments at age 70 and 100 days from study started. As well as a significant increase in the embryo mortality rate in the eggs T1 and T2 compared with other treatments in both ages.