Effect of Egg Storage Temperature and Storage Period Pre-incubation on Hatchability of Eggs in Three Varieties of Japanese Quail

Khalid Hamid Hassan, Ali Rafea Abd Alsattar

Dept. of Animal Resources, College of Agriculture, University of Diyala, Baquba, Iraq

Email address

(Khaled@agriculture.uodiyala.edu.iq (K. H. Hassan)

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Abstract: Background: There are many factors affecting successes of quail production system , one of important factor is provide sufficient number of egg for needs of hatcheries to produce chicks . This study was conducted in poultry farm of Animal Resources – College of Agriculture – University of Diyala - Iraq, to determine suitable conditions for storage of Japanese quail eggs belong to three varieties of Japanese quails(White , Black and brown plumage color). Materials and Methods: Eggs from three varieties allocated in two groups represented two storage temperatures 7 C° and 20 C° (average room temperature) , and each temperature group divided into four sub-groups represented storage periods length 3 , 7 , 10 and 14 days, thus the total number of egg groups were 16 groups. The experiment performed in factorial experiment 3 × 2 × 4 for three factors included variety, storage temperature and storage period , conducted in Randomized Completely Blocks Design with three replicates. The experimental flock consist of 450 birds belong to three varieties , the eggs collected daily and stored according to these various treatments before entered the incubator , and after hatching of eggs , the data recorded for hatchability and embryonic mortality percentages for treatments. Results: The results showed that the

black variety quail has significant superiority in fertility (80.19 %) with compare to White and Brown varieties (69.07 and 68.03 % respectively).

There were significant effect ($P< 0.05$) of storage period on hatchability, hence there were significantly decline in hatchability after storage period for 14 days (36.58 %), also there were significant interaction between varieties and storage periods. While there were no significant effect of storage temperature and other interactions on hatchability and embryonic mortality percentage.

Keywords: Japanese Quail, Varieties, Hatchability, Fertility,Embryonic Mortality