

Effect of n-3 and n-6 Fatty Acid Supplemented Diets on Semen Quality in Japanese Quail (*Coturnix coturnix japonica*)

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Abstract :

The present work aimed to compare the effect of different dietary oil sources on semen characteristics of quail males. Japanese quail males (21 per diet) were fed one of four treatment diets: diet containing sunflower oil (T1), flax oil (T2), corn oil (T3), or fish oil (T4) as the oil source. Birds were 6 weeks old at the beginning of experiment. Following two weeks of adaptation period, semen was collected twice a week fortnightly from each male to evaluate semen traits included in this study. First semen collection was used to evaluate ejaculate volume, sperm concentration, live in total sperm, live normal sperm, sperm quality factor and abnormal sperm, while the second semen collection was used after pooled the semen of each replicate (7 male each) for determine semen glucose, protein, Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT) and Alkaline Phosphatase (ALP). Results of this study revealed that fish oil group (T4) surpasses other treatment groups as regards all semen characteristics involved in this study followed by the results of flax oil (T2), whereas the worst results for these traits were recorded when the diets of quail males supplemented with sunflower oil (T1) and corn oil (T3). In conclusion, fish oil and flax oil supplemented diets can be used as efficient tool for improving reproductive performance of Japanese quail males.

Key Word :

Japanese quail, oil sources, semen quality

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