EFFECT OF SUPPLEMENTING DIET WITH DIFFERENT SELENIUM SOURCES ALONG VITAMIN E ON ENHANCING THE SHELF LIFE OF QUAIL EGGS DURING STORAGE

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ABSTRACT

This study was carried out to evaluate the effect of different selenium sources along with vitamin E on the qualitative characteristics of quail (Coturnix coturnix Japonica) eggs. One hundred forty four at 42 d of age Japanese quail were divided into 3 groups. A completely randomized experimental design, with 3 treatments of 4 replicates with 12 birds each, was applied. Treatments consisted of 1- Basal diet 2- Basal diet + 0.4 mg/kg Sodium selenite along with 120 mg/kg of vitamin E and 3- Basal diet + 0.4 mg/kg; sel-plex along with 120 mg/kg of vitamin E. six week after feeding the treatments, 48 eggs from each experimental unit were randomly selected and kept at 5 C˚ for 15 and 30 days. The effectiveness of various diet treatments on egg qualitative characteristics including weight loss, color intensity, Haugh unit, yolk and albumen pH were evaluated for 15 and 30 days. The results showed that total weight loss in treatments fed diet containing organic and inorganic selenium was significantly decreased compared with control group at 15 and 30 d of storage time. (p≤0.05). The addition of organic selenium plus vitamin E increased the yolk color intensity as compared to inorganic selenium and control group in days 15 and 30 (p≤0.05). Different selenium sources was improved the Haugh unit by 7 units at 30 day of storage time as compared to the control. Yolk pH decreased by addition of selenium supplementation at 15 d of storage time but was not affected by treatments on day 30 storage time (p≤ 0.05). Results showed that adding different sources of organic and inorganic selenium plus vitamin E improved qualitative traits of quail eggs during storage but the differences between organic and inorganic sources of selenium not significant. The results of this study showed that supplementing diets with selenium sources along vitamin E improved Quail egg shelf life and egg quality during storage.

Keywords: storage, Organic Selenium, inorganic Selenium, Japanese Quail, shelf life, Vitamin E