Effect of supplementing methyl donors on productive performance of native hens

By

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ABSTRACT

The current study examines the hypothesis that CAX, SS, B or their mixtures supplemented to the diet can improve the productive and reproductive performance of Fayoumi laying hens at late phase of egg production (47-64 weeks of age). A total of 168 Fayoumi bird 144 hen and 24 cockers were randomly assigned into 8 dietary groups as follows: basal diet alone (control) or with CAX (6 ppm), SS (0.5 g/kg), B (1 g/kg), CAX+SS, CAX+B, SS+B, and CAX+SS+B. All birds were reared under the same management conditions in single battery cage. The most important results could be summarized as follows: The hens fed CAX+SS had the highest values of EN / hen, while hens fed a combination had the highest values of EM and the best FCR compared to other treatment groups. Egg of hens fed a combination recorded the highest ($P < 0.05$) egg shell thickness, which had the best TOAC value, while the CAX group recorded the best lowest cholesterol value compared to other groups ($P < 0.05$). It could be concluded that basal diet supplemented with CAX, SS, B alone or with mixture of them may have lowering effect on yolk total cholesterol. This could lead to produce functional eggs which have positive effects on human health and favorable for those suffering from heart syndromes. The lowest significant Creatinine concentrations values recorded by hens fed diet contain SS + CAX. Reproduction parameters adversely affected by age. The dietary supplementation has significant effect on healthy chicks' percentage and mortality during first week percentage. It could be concluded that basal diet supplemented with CAX, SS, B and/or their combinations may partially improve the productive and physiological performances in Fayoumi laying hens at the late phase of egg production

Key words: canthaxanthin, sodium sulphate, Betaine, egg production, aging, Fayoumi, hens.

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