

Abstract

The current study was conducted to investigate the effect of nettle (*Urtica dioica* L.) and cinnamon (*Cinnamomum Zeylanicum*) powder different levels on performance, carcass characteristics and immune system of Japanese quail. A total of 288 seven-day-old quails chick were randomly allocated to 6 treatments with 4 replicates (12 birds per replicate) as a completely randomized design in a factorial arrangement (2×3). Different levels of nettle including 0, 1 and 2 percent and different levels of cinnamon including 0 and 0.5 percent were added in the diet. Various levels of nettle significantly affected feed intake ($P<0.05$) in the 21 to 28 and 28 to 35 days and whole day of study. The highest feed intake was observed in the birds fed diet with 2 percent nettle ($P<0.05$) and 0.5 percent of cinnamon at the 14 to 21 days of age significantly improved body weight gain ($P<0.05$). The use of nettle and cinnamon had not significant effect on Feed Conversion Ratio($P>0.05$). Adding nettle to diet increased relative weight of Gizzard and Bursa ($P<0.05$). Adding cinnamon increased relative weight of Bursa too ($P<0.05$). The interaction between different levels of nettle and cinnamon On none of the parameters of measured Were not significant ($P>0.05$). Adding nettle at different levels in the diet significantly ($P<0.05$) improved antibody titer against SRBC. Cinnamon 0.5 percent level had not significant positive effect on immune system and performance($P>0.05$). Therefore according to the results could be confirmed that Use of levels of 1 and 2 percent nettle in the diet Can lead improved performance and immune system of Japanese quail during the growing.

Key words: Quail, nettle, *Cinnamon*, performance, Immune system



University of Zabol
Graduate School
Faculty of Agriculture
Department of Animal Science

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Supervisor:

Dr. H. Mohammadi Emarat

Advisors:

Dr. H. Irandoust
Msc. M. Ghazaghi

By:

Kh. Seyedipour

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