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 no 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
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