

Abstract

This experiment was carried out to examine the effect of *Heracleum persicum* essential oil (HPEO) on performance, immune system, intestinal microbial population and some blood parameters of Japanese quail. One hundred sixty 15 days old quail chick were divided in four experimental groups including 0 (control), 10, 20 and 30 mg HPEO per Kg diet. Experimental diets had no effect on weight gain and FCR ($P>0.05$), while had significant effect on feed intake ($P<0.05$). The highest breast weight was seen in 30 mg HPEO per Kg group, and the minimum abdominal fat weight was seen in control group ($P<0.05$). Effect of different groups on anti-SRBC antibody titer was significant ($P<0.05$), while on anti-NDV antibody titer was not significant ($P>0.05$). The lowest amount of blood triglyceride and cholesterol were seen in 30 mg HPEO per Kg diet, and the highest amount of glucose, albumin and total protein was seen in 30 mg HPEO per Kg group. Effect of experimental groups on pH, water holding capacity, cooking loss, drip loss, MDA concentration and coliforms population were not significant ($P>0.05$). This study showed that using HPEO in diet of Japanese quail could improve immunity response and some blood parameters.

Key words: Essential oil, Feed conversion ratio, Antibody, Lactic acid bacteria, Japanese quail



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Effect of different levels *Heracleum persicum* essential oil on performance, immune system, meat quality and intestinal microbial population of Japanese quail

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