Abstract

The aim of current study was to investigate effect of the use of olive oil and L-carnitine on the function of the immune system, microbial population and the quality of Japanese quail meat tested in a completely randomized design with factorial arrangement of 8 treatments, 5 replications and 11 birds for 35 days with levels (zero, 0.5, 1, 1.5) of olive oil and the level (zero and 250 mg per kg), L-carnitine done. The interaction between the consumption of olive oil and L-carnitine have significant effect on feed intake and weight gain. So that all treatments during the period of breeding, feed intake and weight gain than the control group. The treatments ranged from 7 to 21 days, had significant effect on feed conversion ratio. But the interaction between treatments in other intervals had no significant effect on feed conversion ratio. The interaction of treatments on carcass characteristics showed that the interaction between the consumption of olive oil and L-carnitine significant effect on the weight of the breast, liver and gizzard have. But on carcass weight, Leg, heart, spleen, intestine and bursa of Fabricius has no significant effect. The results showed that the interaction between the consumption of olive oil and L-carnitine significant effect on the population of coliforms (Escherichia coli and Salmonella) and that all treatments showed a significant increase compared to the control group. But the total microbial population and the intestinal lactic acid had no significant effect. The treatments had a significant effect on blood albumin and triglycerides. But there was no significant effect on glucose and cholesterol. Experimental treatments significantly increased titers primary challenge with sheep red blood cells were produced. But the second challenge with sheep red blood cell antibody and antibody against Newcastle disease virus, but not significant in number all the treatments compared to the control group showed higher antibody levels. The interaction of treatments on pH, DrippLoss significant impact on the quality of meat and meat MDA3 showed.

Key words: Olives oil, L-carnitine, Quail, Hummoral immunity, Microflora, Meat quality
Effect of L-carnitine and olive oil on performance, immune system, microbial population and meat quality of Japanese quail