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**Effect of Avitoos essence on performance, immune system and microbial population  
intestine of broiler chicks**

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**Abstract**

In order to study the effects of different levels of a mixture of essential oils herb thyme, mint and eucalyptus (Avitoos) on performance, mortality rate, weight, body parts and blood biochemical and immunity parameters in broilers was conducted. Experiment in a completely randomized design with 500 Ross 308 chicks in 5 treatments, 4 replicates and 25 birds in each experimental unit were aged 11 to 42 days. Experimental groups included control group (without Avitoos), treatments 2, 3, 4 and 5 respectively contain 50, 100, 150 and 200 ppm from the Avitoos in drinking water. The results showed that the use of different levels of Avitoos had a significant effect on feed intake and mortality. But in 28 to 42 days, highest weight gain at 100, 150 and 200 ppm and was significant compared to the control level and 50 ppm group. Feed conversion ratio improved for the entire experimental period at 100, 150 and 200 ppm compared to the control group ( $P<0.05$ ). The treatments had no effect on carcass weight, but the weight of liver increased in treatments, 50, 100 and 150 ppm compared to control ( $P<0.05$ ). Weight of hearts in treatment 200 ppm of Avitoos increased compared with the control group ( $P<0.05$ ). Levels of 200 ppm of Avitoos decreased abdominal fat pad significantly ( $P<0.05$ ). Levels of 100 and 150 ppm of Avitoos increased of lactobacillus population in intestine microflora. Treatment of 150 and 200 ppm of Avitoos improved the titer of NI and IVB but not effect on IBV titer. Overall, the result of this experiment showed that Avitoos improved the performance and modified microflora population of intestine.

**Key words:** blood parameters, broilers, essence, performance