

## **Evaluation of histomorphometry of gastrointestinal tract, liver and hematology of broiler chickens treated with dietary pure and encapsulated thyme essence**

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### **Abstract**

Nowadays, replacing antibiotics with herbal essence in the broiler diet has been raised but different essence processing methods can improve essence efficiency. This study performed to investigate dietary pure and encapsulated thyme essence on histometry of some part of the intestinal tract, liver, and hematology of broilers. A total of 192, day-old male broilers (Ross 308) were randomly assigned to four treatments. This experiment was conducted in a completely randomized design with 4 treatments, 4 replicates, and 12 broiler chicks per each replicate. The experimental treatments consist 1) basal diet as control group 2) basal diet + 0.2 g/kg thyme essence 3) basal diet + 0.2 g/kg encapsulated thyme essence 4) basal diet + 0.1 g/kg encapsulated thyme essence. Duodenum height of villi, and Villus height to crypt depth ratio in all supplemented groups, were differed from the control group significantly ( $P < 0.05$ ). Villus height to crypt depth ratio in jejunum significantly differed in 0.1 g/kg encapsulated thyme essence group in comparison to the control group. There is no significant difference in hematology and white blood cell count traits in all experimental treatments. Based on results, it can be concluded that 0.1 g/kg encapsulated thyme essence group had better histometric parameters are compared with the control group and it can be concluded that encapsulation of thyme essence can improve histometry traits and may increase essence efficiency.

**Key words:** Thyme Essence, Broiler, Histometry, Liver, Small Intestine, Hematology

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