

Effects of moist and fermented feed with probiotic displacement levels in broiler nutrition on morphology and histology of the intestine

ABSTRACT

Objective: The aim of this study was to investigate the intestinal morphology and histology effectiveness of broiler chicks fed on moist and different levels of fermented feed with probiotic. **Methodology:** Three hundred sixty 1-d-old Ross308 broiler chicks were allocated in six experimental treatments for six wk. Chicks in the six treatment groups were fed as follows: (T1) Control group fed on dry feed, (T2) Fed on wet feed (1:1, feed: water). (T3) 25% fermented feed + 75% dry feed, (T4) 50% fermented feed + 50% dry feed, (T5) 75% fermented feed + 25% dry feed, (T6) 100% fermented feed throughout the experimental period. Each treatment had 3 replicates of 20 broilers each. The chicks were raised in a temperature and humidity controlled room with a 24-h. Constant light schedule and ad. Libitum access of water and feed throughout the experimental period were provided. **Results:** Treatment effects on relative weight and length of the fine intestine including duodenum, jejunum, ileum, and ceca. As well as, the values of villi height, crypt depth, percentage of villi height to crypt depth in duodenum, jejunum and ileum. Differences among treatments were considered significant when $P \leq 0.05$. **Conclusion:** It is concluded that fermented feed with probiotic had a significant effect on morphology and histology of broiler intestine specially: villus height and the villus height to the crypt depth ratio of all duodenum, jejunum, and ileum.

Keyword: Fermented feed; Moist feed; Probiotic; Intestinal morphology; Histology; Relative weight; Relative length