

Effect of Different Levels of a Commercially Available Acidifier on Growth Performance, Meat Quality and *Escherichia coli* Count in the Ileum of Broiler Chicken

K.G.U.I.P. Gunawardana^{1*}, W.M.S.S. Weerasinghe¹, S.P.M. Priyadarshana¹, S. Anand Kumar¹, P.G.J.C. De Silva², N.M.N. Nambapana¹, D.K.D.D. Jayasena¹

¹Department of Animal Science, Uva Wellassa University, Badulla, 90000, Sri Lanka

²Ceylon Grain Elevators, Colombo, 01500, Sri Lanka

The study reported herein was conducted to investigate the effect of different levels of an acidifier on performance, meat quality, E. coli count in the ileum and the organ weights of broilers. A total of 120-day-old male broiler chicks were randomly assigned into four treatments. Each treatment comprised three replicates of 10 birds each. Broiler chicks were randomly assigned into three acidifier levels (0.5, 1.0 and 1.5 ml/3L) as T₁, T₂, T₃ treatments, respectively. The control group (T₀) treated with normal water only. Broilers were fed with a basal diet for 42 days in a completely randomized design. The highest ($p < 0.05$) daily body weight gain (67 g) and the lowest ($p < 0.05$) feed conversion ratio (FCR) (1.48) were recorded from T₂ treatment. The lowest ($p < 0.05$) E. coli count (7.314 log cfu g⁻¹) in the ileal digesta content was recorded from T₃ treatment. The lowest ($p < 0.05$) cook loss (31%) was recorded from the control group. The lowest ($p < 0.05$) lightness (65.7) and the highest ($p < 0.05$) redness (10.08) of broiler breast meat were recorded from T₂ treatment. The highest ($p < 0.05$) relative weight of the proventriculus (0.39%) was recorded from T₀ treatment. The highest ($p < 0.05$) relative weights of the duodenum (0.4%) and the caeca (0.3%) were recorded from T₀ treatment and the lowest relative weights of the duodenum (0.22%) and the caeca (0.19%) were recorded from T₂ treatment. The highest ($p < 0.05$) relative weights of the heart (0.67%) and the pancreas (0.27%) were recorded from T₀ treatment and the lowest relative weights of the heart (0.42%) and the pancreas (0.09%) were observed from T₂ treatment. In conclusion, supplementation of an acidifier in 1 ml/3L concentration has better effects on performance, E. coli count of the ileum and organ weights of broiler chicken.

Keywords: Acidifier, Feed conversion ratio, Relative weight, Weight gain