

Effects of early age feed restriction and dietary ascorbic acid on heterophil/lymphocyte and tonic immobility reactions of transported broiler chickens

ABSTRACT

Broiler chickens were subjected to (i) pre-treatment for 24 h with 1,200 ppm L-ascorbic acid in their drinking water on day 42 (AA), (ii) 60% feed restriction on days 4, 5 and 6 (FR), (iii) combination of AA and FR (AAFR), or (iv) neither treatment (control). On day 43, the birds were crated and transported in an open truck for either 60 min or 120 min. Heterophil/lymphocyte ratios (HLR) were determined prior to (T0) and 20 h following the 60 min (T60) and 120 min (T120) journeys. Prior to transportation, all treatment groups had similar HLR. Following T 60, the AAFR chicks had smaller increase in HLR than their control, AA and FR counterparts. The AA, FR and AAFR birds exhibited lower HLR than controls following T120. The means HLR of AA, FR and AAFR did not differ significantly. Irrespective of journey time, AA and AAFR birds had shorter tonic immobility duration than their FR and control counterparts. The tonic immobility duration of all birds increased with journey duration.

Keyword: Ascorbic acid; Broiler chickens; Feed restriction; Heterophil/lymphocyte ratios; Tonic immobility duration; Transportation