Heterophil / lymphocyte response and performance of feed and water restricted broiler chickens under tropical conditions

ABSTRACT

The effects of restricting feed [60% of ad libitum (AL) intake] (FR) or water provided from 0900 h to 1600 h, daily) (WR) or both (FWR) from 14 to 42 days of age on heterophil/lymphocyte (H/L) response and performance in broiler chickens under the hot humid tropical conditions were determined. Feed and/or water limitation retarded growth, but had no adverse effect on overall feed conversion ratio and survivability. The trend for total feed and water consumption was similar to body weight pattern with AL>WR>FR>FWR. The nutritional regimens had significant effect on overall water:feed ratios with FR>(AL=WR)>FWR. Restriction of feed and/or water resulted in marked elevation of H/L ratios. As measured by H/L ratios, the effect of adapting to FR dissipated between 16 to 21 days after the onset of feed restriction, The H/L ratios of WR and FWR birds remained elevated throughout the duration of the experiment.

Keyword: Feed and water restriction; Stress; Heterophil to lymphocyte ratios; Broilers