

Effect of vitamin B or C supplemented water on gastric transit time of fear-stressed layer chicken

H.A.D. Nayanarasi and N.S.B.M. Atapattu

Department of Animal Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

Abstract

Fear stress reduces the gastric transit time (GTT) of layer chicken. Vitamin B and C are used to reduce the stress in poultry. The objective of this study was to determine whether provision of water supplemented with vitamin B or C would overcome the stress associated changes in GTT in layer chicken. Layer chicken (n=16) were individually housed in raised floor wire-mesh cages. Eight birds were given vitamin C supplemented water for four days while others (n=8) were supplied with normal water. On fifth day, GTT was determined. Following seven hours of feed deprivation period, birds were offered a commercial layer diet. An observer was assigned to each bird and the time of first faecal pellet expulsion was recorded. The time difference between the offer of feed following the feed deprivation and the time of first faecal pellet expulsion was taken as the GTT. The GTT under fear-stressed condition was determined next day using the same procedure. Birds were stressed by ringing a bell at every 15 minutes until the last bird voided the first faecal pellet. A similar method was used to study the effect of vitamin B on GTT. The level of vitamin concentration in water was 100 ppm. Under un-stressed conditions, provision of vitamin B or C enriched water had no significant effect on GTT. When stressed, irrespective of the type of water provided, GTT reduced significantly. Similar results were observed when GTT was expressed as $GTT/100g\ BW$ and $GTT/LW\ (g)^{0.75}$. It was concluded that fear-stress-induced reduction in GTT of layer chicken can not be recovered by giving water supplemented with vitamin B or C.

Keywords: Fear Stress, Layer Chicken