Effects of Different Levels of Dietary Vitamin Premix (ENHALOR) in Diets on Growth Performance and Meat Quality of Broiler Chicken

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Poultry industry is a well-established livestock industry in Sri Lanka. The profitability of the industry depends on growth performance and meat quality of broilers and various feed additives are used in the industry. This research was conducted to determine the effect of different level of dietary vitamin premix (ENHALOR) on growth performance and meat quality of broiler chicken. Three hundred sixty-day old (Cobb 500) male broiler chicks were randomly assigned to four dietary treatments and each treatment comprised with 09 replicates. The dietary treatments included 4 concentrations of vitamin premix. The control group (T_0) of birds received 350 g, 350 g, 300 g ton^{-1} of premix for booster, starter and finisher diets, respectively. The other experimental birds of three treatments were treated with vitamin premix such as T_1 (330 g, 280 g, 250 g ton^{-1}), T_2 (280 g, 250 g, 200 g ton^{-1}) and T_3 (250 g, 200 g, 180 g ton^{-1}) in booster, starter and finisher diets respectively. Average body weight and feed intake were recorded during the experimental period. At the end of day 40 birds were slaughtered and organ weight, carcass weight, meat quality parameters were measured. The highest ($p < 0.05$) daily weight gain (23 g $bird^{-1}$ day^{-1}), (70 g $bird^{-1}day^{-1}$), (73 g $bird^{-1}day^{-1}$) and the lowest ($p < 0.05$) feed conversion ratio (1.75, 1.5 and 2.06) of broilers were recorded by T_2 treatment in booster, starter and finisher phase respectively. The highest ($p < 0.05$) pH (6.67) of broiler breast meat was recorded from T_0 and the lowest (6.53) pH of broiler breast meat was recorded from T_1. In conclusion, the dietary supplementation of vitamin premix (ENHALOR) for broiler booster (280 g ton^{-1}), starter (250 g ton^{-1}) and finisher (200 g ton^{-1}) diets has better effects on performance of broiler chicken.

Keywords: Feed conversion ratio, pH, Vitamin premix