

Effects of Three Dietary Metabolizable Energy Levels on Growth Performance and Carcass Fat Contents of 28-35 Days Old Broiler Chicken

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ABSTRACT

Since the energy requirement and energy intake are complex issues involving many genetic, management and environmental conditions, determination of the optimum dietary energy level for modern fast growing broilers are difficult. Objective of this study was to determine the effects of three dietary energy levels on growth performance and carcass fat contents of 28-35 days old broiler chicken. Two diets were prepared by increasing the dietary metabolizable energy (ME) level of a commercial broiler finisher diet (control) from 3100 to 3200 and 3300 Kcal/kg by mixing coconut oil at 0.0221 and 0.0453g/kg, respectively with the control diet. Giving a completely randomize design with 6 replicate pens per each treatment, 54 broiler chicks received one of the above three diets ad libitum from day 28 to 35. Day time feeding rate of the birds fed 3300 Kcal was significantly higher than those fed diets containing either 3200 or 3100 Kcal/kg. Feeding rates after 11.30 am was significantly lower than that of early hours. Water intake rate was not affected by the dietary energy level but by the time of the day. Total feed and water intake was not significantly affected by the dietary energy level. Though the total energy intake of the birds fed 3300 Kcal diet was significantly higher than the birds fed other two energy levels, there was no significant difference in energy efficiency ratio. (EER) None of the growth performance parameters and visceral organ weights was significantly affected by the dietary energy level. 3300 Kcal diet significantly increased the cloacal and total fat (cloacal + gizzard) fat content. Digesta transit time was not significantly influenced by the dietary energy level. It was concluded that 28-35 day old broilers do not adjust their feed intake when dietary ME level increased from 3100-3300 Kcal/kg. Furthermore, increase of dietary ME level from 3100 to 3300kcal/ kg during day 28 to 35 had no beneficial effects on growth performance but increased the carcass fat content.

Keywords - Broiler, Carcass fat, Metabolizable Energy