

EFFECTS OF FEEDING FREQUENCY ON FAT DEPOSITION AND GROWTH PERFORMANCE IN BROILERS

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The feeding strategies may offer a practical and an efficient solution for reducing body fat deposition in modern broiler strains. This experiment was conducted to study the effect of feeding frequencies on the fat deposition and growth performance in broilers. Two hundred and forty, Cobb500 day old broiler chicks were randomly assigned into five treatments in a completely randomized design with four replicates of twelve birds each. Treatments were as follows; four times (0630, 1030, 1430 and 1830 h), three times (0630, 1230 and 1830 h), two times (0630 and 1230 h), one time (0630 h) per day feeding, and control (feeding at 0630 and 1830 h). Chicks were fed with commercial broiler rations in two phase feeding program according to the VRI recommendations. Growth performances were observed weekly, in addition carcass quality parameters and serum lipid profile were measured by slaughtering on 40th day. Data were analyzed using one way Analysis of Variance in SAS. Economic efficiency was evaluated by cost benefit analysis. The highest ($p < 0.05$) feed intake (1.4 kg/bird) was reported for birds fed one time per day, while the lowest were recorded (0.9 kg/bird) in birds fed two times per day. However, there were no differences ($p > 0.05$) in body weight gain, feed conversion ratio and dressing percentage of birds among the treatments. Although serum cholesterol and low density lipoproteins (LDL) were not differed ($p > 0.05$) among treatments, serum high density lipoprotein (HDL) levels were significantly higher ($p < 0.05$) in birds fed four times per day compared to control treatment. Abdominal fat contents of carcass were significantly lower ($p < 0.05$) in birds fed three and four times per day (12 - 14 g) compared to control treatment (24 g). Further, muscle protein contents were significantly higher ($p < 0.05$) and crude fat content of meat was lower ($p < 0.05$) in birds fed three and four times per day. According to the cost benefit analysis, the highest profit (Rs. 249.74/bird) was gained from three times per day feeding. In conclusion, three times per day feeding is a better solution to improve the meat quality, while reducing abdominal fat pad without interfering on growth performances of broilers with lower cost.

Keywords: Abdominal fat, Broilers, Carcass quality, Feeding frequencies, Lipid profile