APPLICATION OF INTERMITTENT FEEDING AND FLASH LIGHTING REGIMENS IN BROILER CHICKENS MANAGEMENT

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Abstract:

2015) SUMMARY Two experiments were conducted to evaluate the effect of intermittent feeding and flash lighting regimens on growth performance, carcass traits, blood parameters and economic efficiency of broiler chickens. In experiment 1, one hundred and twenty, one-day old Cobb chicks were equally distributed into four groups (each consisted of 3 replicates of 10 birds each). Chicks in the first group (G1) were fed ad libitum (Control, C), while the other three groups were fed according to intermittent feeding regimes consisted of different number of cycles per day, each cycle consisted of feeding period (F) followed by fasting period (S). Chicks of the second group (G2) were fed in 2 cycles per day, each of 6 hrs feeding followed by 6 hrs fasting (6F: 6S); chicks of the third group (G3) were fed in three cycles per day, each of 4 hrs feeding followed by 4 hrs fasting (4F: 4S) and chicks of the fourth group (G4) were fed in six cycles per day, each of 2 hrs feeding followed by 2 hrs fasting (2F: 2S). In experiment 2, one hundred and twenty, one-day old Cobb chicks were equally distributed into four groups (each consisted of 3 replicates of 10 birds each). Chicks in the first group (G1) were exposed to continuous light/day (Control, C), while the other three groups were exposed to intermittent flash lighting regimens as follows: the second group (G2) was exposed to 2hrs continuous light+1hr dark for 8 cycles per day (2CL: 1D); the third group (G3) was exposed to 2hrs continuous light+1hr flash light for 8 cycles per day (2CL: 1FL) and the fourth group (G4) exposed to 1hrs continuous light + 2hrs flash light for 8 cycles per day (1CL: 2FL). The results indicated that intermittent feeding and flash lighting significantly (P≤0.05) affected body weight, body weight gain, feed consumption, feed conversion ratio, and consequently economic efficiency. However, it had no significant effect (P≥0.05) on most carcass traits, meat quality, blood parameters, lymphoid organs and conformation lengths except liver and abdominal fat percentages, tenderness and juiciness of meat, plasma lipids value, percentages of spleen and thymus weight. According to the results of present study and economic evaluation, it could be concluded that, it is possible to use the intermittent feeding regimen of 2F:2S for six cycles/day and flash lighting regimen of 2CL: 1FL for 8 cycled/day in broiler management to improve growth and economic efficiency as well as to reduce abdominal fat without any adverse effect till marketing age with expected considerable saving in costs of feed and (electricity).

Keywords:

broilers, intermittent feeding and flash lighting, carcass and blood traits, performance

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