

Influence of feeding frequency on changes in body measurements and carcass characteristics of Red Sokoto Goats

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Abstract

Changes in body measurements and carcass characteristics were studied in Red Sokoto goats raised for 108 days on three feeding regimes. Twenty one growing intact male goats with average weight of 8.70 ± 0.23 kg were randomly grouped into three, corresponding to the number of feeding (treatments) per day, viz, once OPD (08.00h), twice TPD (08.00h and 13.00h) and thrice HPD (08.00, 13.00, 18.00) in a completely randomized design. Each goat was offered grass, Panicum maximum and concentrate (17% CP and 3.97 ME, Mcal/kgDM) supplement in separate containers at daily rates of 0.70 and 0.50 kg/head/ day based on the number of feedings. Body weights and linear body measurements were taken weekly. Four representative goats were slaughtered at the close of the feeding periods to evaluate effect of level of feeding on carcass characteristics. Goats fed twice per day, TPD, had highest ($P < 0.05$) average weight gain (g/d) of 81.01, against 37.03 and 69.44 obtained for OPD and HPD fed goats. There were significant differences ($P < 0.05$) in the changes in body weight, length, chest girth, and height at withers values of goats as the trial progressed. Skeletal growth as represented by the height at withers HW was observed in all goats but more prominent and steady in OPD and TPD fed goats. Changes (cm) in HW of goats monitored in three stages of 36 days each of 108 day trial were: OPD goats; 3.50, 2.00, and 1.50; TPD goats, 1.00, 5.00 and 0.05; HPD goats, 6.00, 3.00 and 0.20. Regression of body measurements on changes in body weight ($P < 0.01$) showed that chest girth was best in predicting changes in body weight on account of its highest correlation ($r^2 = 0.77$). Similarly, TPD fed goats had highest ($P < 0.05$) dressing % (58.30), carcass weight (7.90kg), carcass condition score (2.50) and offal composition. Corresponding values of 47.48 and 55.70 %, 5.00 and 7.00kg, and 1.00 and 1.90 were obtained for OPD and HPD fed goats respectively. Therefore, feeding goats twice per day improved production, and could prevent waste of farmer's resources that is associated with higher number of feeding.

Key words: Feeding frequency, body measurement, carcass, goats.