

Effect of the concentrate supplementation on composition of the extrusa, feed intake, digestibility and N balance of goats grazing in Caatinga native vegetation.

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The objective of this study was to evaluate the effect of concentrate supplementation on the performance of goat kids grazing in the native vegetation of semiarid region of Brazil (Caatinga). The variables evaluated were digestibility of extrusa (food collected by the fistulated animals), weight gain, feed intake, digestibility and N balance. Four castrated indigenous male goats (2.5 years old and 22.5 ± 4 kg of body weight (BW)) and fistulated were randomly assigned in Latin square design for evaluation of the chemical composition and *in vitro* digestibility of the extrusa. For determination of weight gain, feed intake and digestibility, thirty-six castrated male goats (five months old, 15.7 ± 0.78 kg of BW) were arranged randomly in four supplementation levels: 0, 5, 10 and 15 g/kg of BW/day. The concentrate was composed by (g/kg of dry matter, DM) ground corn grain (670.3), wheat meal (222.8), soybean meal (96.5), and mineral supplement for goat (10.4). The pasture DM intake was estimated through the total feces excretion and DM digestibility of the diet. Analysis of variance and regression were performed using SAS (the significance adopted was $P < 0.05$). The composition of extrusa did not differ between levels of concentrated supplementation ($P > 0.05$) except for the bound condensed tannin ($P < 0.05$). The weight gain presented a linear increasing effect with concentrate supplementation levels. The forage intake decreased with concentrate supplementation ($P < 0.05$) when expressed in g/kg of BW, however the total DM intake (g day^{-1}) presented linear effect ($P < 0.05$) among the levels with the values ranging between 720.3 to 889.2 g/day as well the intake (g/day) of crude protein, ether extract and total digestible nutrients ($P < 0.05$). The digestibility of the extrusa ($P > 0.05$) did not differ between levels of concentrate supplementation. The concentrate supplementation provided a greater N intake (NI) (g/day) ($P < 0.05$), as well as greater rates of N (g/day) in feces, N digested, N retained (NR), and the ratio (g/g) between the NR with NI. The N balance was positive in all levels evaluated. These results allow for recommending concentrate supplementation in the diet of goats grazing in native vegetation Caatinga during the dry season, improving the animal performance.

Key Words: brazilian semiarid, goat kids, herbage availability, supplement

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