

groups to be supplemented as follows: T1=control; T2=70% sugarcane molasses mix; and T3=60% sugarcane molasses plus 10% urea mix, and T4=20% urea mix. The urea mix contained common salt, clay, sodium bentonite and sugarcane bagasse. The supplement was offered in groups at night, but during the day all animals were managed alike. Animals in T2 performed differently ($P<.05$) at the end of the 42-week period when the average daily gains (g/day), were as follows: 28.4, 23.4, 30.9 and 34.8 for T1 through T4, respectively. The rates of pregnancy (%) were lower ($P<.01$) for T1 and T2 and higher for T3 and T4 (54.5, 50.0, 72.7 and 84.6 respectively). It was concluded that nitrogen is the limiting nutrient for the first pregnancy, but at this age goats respond to nitrogen-energy combinations as well.

Key word: Dairy purpose female goats, non-protein nitrogen, energy, reproduction.

121 PREDICTION OF DRY MATTER INTAKE IN LACTATING AND GROWING DAIRY GOATS

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Stepwise regression analyses were conducted to identify factors affecting dry matter intake (DMI) and to develop equations for predicting intake in lactating and growing dairy goats. Eighty-nine primiparous lactating does were fed six diets containing various protein (12, 15, or 18% CP) and energy (58 or 72% TDN) levels for 24 weeks. Ninety growing kids were fed nine diets with different protein (15, 13 or 11% CP) and energy (77, 64, or 52% TDN) levels for 16 weeks. In addition, sixty multiparous lactating does were fed four diets with various protein (14 or 17% CP) and energy (71 or 59% TDN) levels for 16 weeks. All diets were complete rations and fed ad libitum. Levels of vitamins and minerals were held constant among treatments for each experiment. Independent variables in lactation studies were milk yield, breed, TDN, CP, body weight, milk fat and milk protein. In the growth trial, independent variables were breed, sex, body weight, daily gain, TDN, CP. Energy level, milk yield and body weight were the 3 variables to best estimate dry matter intake during weeks 1 to 5, 6 to 10, 11 to 15 and 16 to 20 of lactation. Energy level, breed and body weight variables best accounted for the dry matter intake in the growth trial. Predicted equation for weeks 11 to 20 of lactation is: $DMI (kg/day) = 3.63 + 0.37 \times \text{milk yield (kg/day)} + 0.02 \times \text{body weight (kg)} - 0.04 \times \text{TDN (\%)}$, $r^2=0.80$, $Sy.x=0.24$, $P<.0001$. Predicted equation for weeks 1 to 20 of lactation is: $DMI (kg/day) = 3.61 + 0.35 \times \text{milk yield (kg/day)} + 0.02 \times \text{body weight} - 0.05 \times \text{TDN (\%)}$, $r^2=0.84$, $Sy.x=0.20$, $P<.0001$.

KEY WORDS: Goat, intake, prediction, lactation, growth.