



### Energy intake of five forage sorghum silages harvested in a Brazilian semi-arid region

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Food quality represents the main cause of differences in voluntary feed intake as it is responsible for providing the necessary nutrients that meet animal requirements. On the other hand, nutrient absorption depends on other factors such as interactions between intake and digestibility. Thus, food quality needs to be evaluated regarding nutrients absorption and efficiency of chemical energy retention from the nutrients, body and products, such as milk and meat. The objective of the current study was to assess the intake of gross energy (GE), digestible energy (DE) and metabolizable energy (ME) in rams fed forage sorghum silages harvested in a Brazilian northeastern semi-arid region. Treatments consisted of five forage sorghum cultivars grown for silage production (BRS Ponta Negra, BRS 655, BR 601, BRS 506 and BRS 610). Plants were harvested as grain exhibited dough stage approximately 95 days after planting and chopped in a stationary silage harvester to a length of 2 cm. Twenty-five rams (average body weight of 21.7 ± 2.1kg) were used in this experiment. During the first 25 days animals were adapted to the diets in metabolic cages, with total collection of feces being conducted over a 5 day period by using individual bags. A completely randomized design with five treatments and five replications was used, with variables being tested to check if data had normal distribution before carrying out the analysis of variance. Means were compared by Tukey test at 5% probability ( $P < 0.05$ ). Chemical analysis revealed the following properties: total digestible nutrients (TDN) and GE of 59.2% and 4,186.1 kcal kg<sup>-1</sup>, respectively. No difference ( $P > 0.05$ ) was observed in GE, DE and ME intakes (in kcal day<sup>-1</sup> and in kcal kg<sup>-1</sup> per unit of metabolic size per day - kcal UMS<sup>-1</sup>). GE intake varied from 2,617.2 to 2,991.8 kcal day<sup>-1</sup> and from 274.9 to 292.5 kcal UMS<sup>-1</sup>. DE intake ranged from 1,525.6 to 1,838.6 kcal day<sup>-1</sup> and DE intake in kcal UMS<sup>-1</sup> ranged from 160.3 to 179.7. ME intake (in kcal day<sup>-1</sup> and kcal UMS<sup>-1</sup>) was similar among treatments, with animals fed forage silages exhibiting an average ME consumption of 1,183.1 and 117.0 kcal day<sup>-1</sup> and kcal UMS<sup>-1</sup>, respectively. Based on energy intake as examined in the current study, the five forage sorghum silages may prove to be useful feed sources for ruminants raised under semi-arid conditions.

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