In tropical pastures it is common the occurrence of nutritional deficit or imbalance among the nutrients required by the animals. Therefore, the use of supplements has the function of providing nutrients that are in imbalance in the forage, correcting specific deficiencies, thus enhancing their use by the ruminal microorganisms, consequently increasing the potential of weight gain of the animals (REIS et al. al., 2012). The objective of this study was to evaluate the effects of supplementation on the performance of beef cattle on tropical grassland. The experimental period was 84 days. Thirty-six steers (½ Angus × ½ Nelore) were used, with a mean age of 11 months and initial mean body weight of 280.35 ± 23.90 kg. For this, the animals were weighed at the beginning and end of the experiment with a fasting of 14 hours of solids. The experimental design was completely randomized (DIC) where the data were analyzed by the Mixed model procedure in the software Statistical Analysis System” (SAS, 2018), to verify the effects considering the level of 0.05% of significance. Four treatments consisted of: Treatment 1 Control (no supplementation), treatment 2 and 3, receiving 0.5% and 1% of supplement according to body weight accordingly, where the protein content was calculated according to value of the pasture protein, treatment 4 was supplemented with 0.5% of body weight with 16% crude protein. Average daily gain of the respective treatments (0.81, 1.27, 0.98, 1.24). It was observed that there was no difference between treatments (P > 0.05). However, it is observed that the mean of the body weight gain of treatment 2 was higher when compared to that of treatment 3, even when in treatment 3 there was supplementation of 0.5% more protein. In this case, the substitution effect may have occurred in treatment 3, because when the forage is replaced, there is a reduction of the energy coming from it (FIORENTINI, 2009). It was concluded that the substitute effect caused a low rate of weight gain, decreasing the performance of the supplemented animals.

Keywords: production animal, supplement, tropical pasture