ZOOTECNIA BRASIL
Centro de Convenções da PUC-GO | Goiânia-GO
27 a 30 de agosto de 2018

55ª REUNIÃO ANUAL DA SOCIEDADE BRASILEIRA DE ZOOTECNIA

ZOOTEC 28º CONGRESSO BRASILEIRO DE ZOOTECNIA

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

TILLERING AND MORPHOLOGICAL COMPOSITION OF *PANICUM MAXIMUM* CV. BRS ZURI INOCULATED WITH BACTERIA PROMOTING GROWTH

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In Brazil, pastures are one of the most cultivated crops, but parts of these areas are in the degradation stage, where one of the recovery measures is to replenish the nutrients extracted, so the need arises to employ more sustainable forms of fertilization in relation to mineral fertilization conventional. The objective was to evaluate the ability of growth promoting bacteria strains as an alternative or complement to nitrogen fertilization (N) in the development and morphological composition of *Panicum maximum* cv. BRS Zuri. The experiment was conducted in a greenhouse in plastic containers. The application of the inoculants, containing the bacteria, occurred directly on the seeds, moments before sowing, and a thinning was performed maintaining five plants per pot. Three treatments consisted in the inoculation of strains of *Azospirillum brasilense* ABV5-V6, *Pseudomonas fluorescens* and a combination between *Rhizobium tropici* and *Azospirillum brasilense* ABV6, three other treatments evaluated the combination between inoculation and N fertilization, and also two control treatments, one without inoculation and fertilization and another in which only N fertilization occurred. The experimental delineation was in randomized blocks with five replications was used. The height of the plants, number and dry mass (DM) of tillers and the proportion, in percentage, of leaf blade and of pseudostem together with sheath were determined. All analyzes were submitted to analysis of variance at 5% probability and the Scott-Knott averages comparison test was applied when the difference was significant. There was no significant effect ($P<0.05$), for the leaf blade ratio and pseudostem, but, having effect for number and DM of tillers and plant height. N fertilization in conjunction with *Pseudomonas fluorescens* promoted the highest values for DM and number of tillers, with 10.36 g per pot and 2.8 tillers per plant, respectively, with the lowest averages presented by the treatments in which there was no fertilization N. This shows that it is possible to reduce the applied amounts of nitrogen without compromising the tillering and its DM. The highest averages of height were presented by the treatments without fertilization and the inoculation of *Azospirillum brasilense* ABV5-V6 having the highest value of 66.33 cm. It is concluded that the *Pseudomonas fluorescens* strain, combined with N fertilization, promotes an increase in tillering and in its DM.

Keywords: fertilization, inoculation, morphological components, tropical pastures