

## DIAZOTROPHIC BACTERIA ISOLATED FROM NATIVE GRASSES OF THE PANTANAL SUL MATO GROSSENSE

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The studies with diazotrophic bacteria are of great importance, due to the contribution of these for the nitrogen supply to the several ecosystems, natural or managed. The objective was to verify the occurrence of diazotrophic bacteria isolated from roots of forage grasses of the Pantanal Sul Mato Grossense located in the sub region of Nhecolandia, Pantanal Sul Mato Grossense. Were analyzed areas(9,10 and 14) of the Nhumirim farm, located in the sub region of Nhecolandia, Pantanal Sul Mato Grossense. Were used ten samples of forage grasses collected randomly and classified for each area of study. The samples roots of each plant were washed in running water weighed in 1g in three repetitions that went macerated in 0,9ml in saline solution and the result solution were diluted until  $10^{-5}$ , of each dilution it was inoculates 0,1ml in bottles with 5,0ml of the semi selective medium LGI and NFb semi solid (exempt of nitrogen) for the specie *Azospirillum amazonense* and for the genre *Azospirillum* ssp. For each medium were used three bottles by dilution, that were incubated at 28°C durring five days. After this period were evaluated the bacterial population for the method of the most probable number (MPN), basing on the presence of the characteristic film (in the veil form) of diazotrophic bacteria following the MacCrary chart. On the area 09, *Setaria* ssp. and *Axonopus purpusii* presented negative count with a value of zero, for the semi solid medium LGI, and  $2,53 \times 10^4$  e  $38 \times 10^4$  cell/ml, respectively, for NFb. However, *Panicum laxum* ( $0,13 \times 10^4$  e  $156 \times 10^4$  cell/ml), and *Reimarochloa* ssp. ( $3,17 \times 10^4$  e  $140 \times 10^4$  cell/ml) presented positive count for the LGI medium and the semi soil NFb medium. On the area 10 *Cynodon* ssp. ( $0,5 \times 10^4$  e  $8,4 \times 10^4$  cell/ml), *Hymenachne amplexicaulis* ( $0,13 \times 10^4$  e  $48 \times 10^4$  cell/ml) e *Polygon* ssp. ( $0,1 \times 10^4$  e  $94 \times 10^4$  cell/ml), presented the smallest bacterial number, for both semisolid medium, LGI and NFb respectively. On the area 14 *Setaria* ssp. ( $95 \times 10^4$  e  $31 \times 10^4$  cell/ml), *Reimarochloa* ssp. ( $57 \times 10^4$  e  $140 \times 10^4$  cell/ml), e *Cynodon* ssp. ( $100 \times 10^4$  e  $140 \times 10^4$  cell/ml) presented significant bacterial number for both, LGI and NFb medium respectively. The results obtained though the most probable number method were able to evidence the diazotrophic bacterial occurrence associated to the grasses species studied on the pasture areas described in the Pantanal.

**Keywords:** biological fixation, nitrogen, grassland

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