Title: SPAD INDEX IN RICE PLANTS IN FUNCTION OF THE INOCULATION WITH DIAZOTROPHIC BACTÉRIA AND MOLYBDENUM

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Abstract:

The nitrogen fertilizer are used on a large scale in the rice production. To reduce the costs and the damages to the environment, associations with diazotrophic bacteria can be an alternative, therefore the biological nitrogen fixation (BNF) can supply part of the necessity of the plant for nitrogen. The aim of this study was evaluate the development of the rice inoculated with diazotrophic bacteria and molybdenum. The experiment was conducted in a greenhouse, allocated in pots with 8 dm^3 containing Cerrado Oxisol. The delineation used was entirely at random, with 12 treatments and four replications, totaling forty-eight experimental units. The treatments had been composites for two strains of diazotrophic bacteria (Az8 and H2), two doses of nitrogen (0 and 150 mg dm^{-3} in the urea form) and three doses of molybdenum (0, 1,5g and 3,0g). Liming was carried to raise the pH according to the soil chemical analysis. The soil was fertilized with phosphate and potassium fertilizers in doses of 200 mg dm^3 of P_2O_4 and 80 mg dm^3 of K_2O (superphosphate and potassium chloride , respectively). The seeds were pelleted with peat inoculum produced with the diazotrophic bacteria and the addition of the molybdenum. The bacteria were multiplied in Dygs medium under agitation of 100 rpm for 24h. 10 seeds for vase had been sown, leaving four plants for vase after rough-hewing. It was evaluated the SPAD index in the vegetative stage, flowering and grain filling. The used statistical program for analysis of the data was the SISVAR and the averages submitted to the test of Tukey 5% of probability. Significant difference between inoculation with diazotrophic bacteria and molybdenum doses was observed. Plants that received the inoculant composed of the Az8 strain and 1,5g of Mo had higher SPAD index values in all stages of rice development Inoculation with diazotrophs and molybdenum can be effective to supply part of the nitrogen required by the rice.

Key words: Nitrogen, Inoculant, *Oryza sativa* L.

Agency foments: CNPq