



UREASE ACTIVITY IN RHIZOSPHERIC SOIL SAMPLES UNDER MAIZE INOCULATED WITH ASSOCIATIVE DIAZOTROPHIC BACTERIA

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Urease (urea amidohydrolase - EC3.5.1.5), the enzyme that catalyzes urea hydrolysis into carbon dioxide and ammonia, is produced by plants and mainly by the soil microbiota, therefore this enzyme assumes importance in the nitrogen (N) cycling in the plant rhizosphere. The use of nitrogenated fertilizers, imported for the most part, require high economic and environmental costs. In recent years, as an alternative to reduce nitrogenated fertilizing in maize, the agricultural practice of inoculation with associative diazotrophic bacteria has been increasingly used. The objective of the present study was to evaluate the impact of the diazotrophic bacteria, genus *Azospirillum*, inoculation on N cycling in the maize rhizosphere determined by the urease enzymatic activity. The experiment, conducted in the municipal district of Sete Lagoas, Minas Gerais, in Embrapa Maize and Sorghum experimental area, contained four nitrogen levels (0, 40, 100 and 160 kg/ha, in covering), six strains (E1, E2, E3, E4, E5 and E6) and a control treatment (without N and without inoculation), distributed in a random block design, in 4x7 factorial outline, with three repetitions. Soil samples were collected during the flowering stage of the plants for enzymatic activity analysis, through quantification, by the colorimeter method, of ammonia liberated by urea hydrolysis in the samples. Statistically significant differences were not detected for urease activity, independent of the inoculation and the N levels. It was concluded that the urease activity in the soil rhizosphere of maize plants does not undergo nitrogenated fertilizer and inoculation influence, at the evaluated time.

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