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A PRELIMINARY STUDY ON THE RESPONSE OF RICE SEEDLINGS TO *INOCULATION* WITH *AZOSPIRILLUM BRASILENSE*

M K Gunatilaka and Y Abhayawardhana
Institute of Fundamental Studies, Hantana, Kandy

S A Kulasooriya
Dept. of Botany, University of Peradeniya and Institute of Fundamental Studies, Hantana, Kandy

Studies on the association of the microaerophillic, N_2-fixing bacterium Azospirillum with the roots of certain members of the Gramineae have shown changes in root morphology and increased rhizosphere nitrogen fixation[1].

This paper reports an initial study conducted to investigate the response of rice seedlings to innoculations with Azospirillum brasilense.

Rice seedlings (Variety Bg 400-1) grown under sterile conditions in acid washed sand supplemented with a nutrient medium were inoculated with different serial dilutions of a culture of Azospirillum at its logarithmic growth phase. After a growth period of 19 days in a light chamber the seedlings were harvested. Seedling and root fresh weight showed an increase with inoculum concentration and then decreased with further increase in inoculum density. Root associated nitrogenase activity also showed a similar trend.

Stimulation of root growth in rice seedlings as a response to inoculation with an associative nitrogen fixer, as exhibited in the present study, may help in early seedling establishment with better nutrient uptake that could result in better overall growth of the plants.

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Reference

1. Kapulnik, Y., Okon, Y., and Henis, Y. (1985) Changes in root morphology of Wheat caused by Azospirillum inoculation. Can. J. Microbiol. 31 881 - 887