

SOME LABORATORY INVESTIGATIONS ON A RHIZOSPHERIC  
DIAZOTROPH ISOLATED FROM A LOCAL PADDY FIELD

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Several Diazotrophs were isolated from the rhizosphere of paddy using the Cut-plant soil technique. These isolates were tested for associative nitrogen fixing activity using the Spermosphere model. As a preliminary investigation on characterization of the isolated diazotroph, an antibiotic resistance test was performed with chloramphenicol, lyramycin, tetracyclin, penicillin, streptomycin and ampicillin. The resistance and susceptibility levels obtained for this wide range of antibiotics used could be employed for identification of the diazotroph for later studies.

The diazotroph isolated from the rhizosphere of rice was shown to be capable of better growth in pure culture when supplied with tryptophan than with ammonium chloride alone. Hence, it was decided to find out whether this enhancement effect was due to the ability of the organism to convert tryptophan to a growth promoting factor like indole acetic acid and the ability of the cells to grow better when indole acetic acid is present in the growth medium. The TLC investigations showed the presence of spots corresponding to the authentic sample of indole acetic acid. This will have to be confirmed using HPLC.