DETERMINATION OF TETRACYCLINE SENSITIVITY AND SALT STRESS RESPONSE IN PHOSHPHATE SOLUBILIZING *BACILLUS* ISOLATES OF RICE RHIZOSPHERE

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Abstract: In the present investigation, a total of eighteen *Bacillus* isolates obtained from rice rhizospheric soil samples collected from various locations of Uttar Pradesh. The isolates were isolated by using nutrient agar medium and identified as *Bacillus* spp. Out of 18, only ten *Bacillus* isolates found positive for phosphate solubilization on Pikovaskaya medium. All phosphate solubilizing *Bacillus i*solates were screened for tetracycline resistance and NaCl salt tolerance at variable concentrations. Most of the *Bacillus* isolates shown tolerance up to 6% NaCl concentration only. The isolate Bc-etw-4 and Bc-mth-4 isolates shown tolerance at 7% NaCl. Almost all isolates were inhibited at 10 µg/ml of concentration of tetracycline. Only isolate Bc-etw-2 was able to grow at 20 µg/ml of tetracycline concentration .Whereas the isolate Bc-bsr-1 was found sensitive even at 1µg/ml concentration of tetracycline in the medium. Our research findings shown that isolates from rice rhizosphere have the potential which may promote plant growth of rice directly and indirectly under saline soils.

Keywords: *Bacillus* isolates, Antibiotic Sensitivity, NaCl, Phosphate Solubilization, Rice Rhizosphere

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