

ISOLATION AND CHARACTERIZATION OF NITROGEN FIXING PAENIBACILLUS SPP ISOLATED FROM DIFFERENT RHIZOSPHERIC SOIL SAMPLES COLLECTED FROM DIFFERENT PLACES OF ANDHRA PRADESH

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Abstract: The isolation for nitrogen fixing *Paenibacillus* spp remains poorly explored. In this study, the endospore-forming *Paenibacillus* strains were isolated from rhizospheric soil samples of sorghum collected from different places of Andhra Pradesh. A total of twenty eight nitrogen fixing *Paenibacillus* strains were isolated based on heat treatment at 70 °C for 10 minutes and growth on nitrogen free media. Two reference strains and all the twenty eight isolates took 3-4 days to show small to medium, circular, milky white colonies with entire margin. Morphology of two reference *Paenibacillus* strains and all the twenty eight isolates were found to be gram positive, endospore forming, rod shaped and without any pigmentation. The 28 *Paenibacillus* isolates and two reference strains were tested for different biochemical tests. Results revealed that 28 *Paenibacillus* isolates showed similar results to that of the reference stains. Therefore the 28 isolates were confirmed as *Paenibacillus* isolates.

Keywords: Rhizosphere, isolation, Characterization, Endospore, *Paenibacillus* spp.

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