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Evaluation of bacterial isolates with bioremediation potential for plant growth promotion traits in millets.

Plant Growth-Promoting Rhizobacteria (PGPR) are useful in suppressing plant diseases and promoting growth and development. The aim of the present study is to evaluate potent textile dye degrading isolates for PGPR traits. The main aim of this research is to attempt enhancing the yield of millets by using the growth promotion property of the isolates. A total of four isolates with good dye degradation ability were evaluated for PGPR traits and were characterised using biochemical tests and molecular techniques. The isolates were tested for traits such as Indole production, Phosphate solubilization, Zinc solubilization, HCN production, Ammonia production and Siderophore production and the isolates represented as S1, G1, MB and DR answered positive for most of the PGPR properties. Antifungal activity was also checked and S1, G1 and MB possessed good antagonistic property against *Aspergillus* sp. and MB exhibited a maximum percentage inhibition of 74.75%. In vitro seed germination assay was performed for the millets Jowar, Bajra and Ragi and maximum root and shoot length was recorded with MB treatment. Preliminary Pot culture assay was performed. Isolate MB showed maximum seed germination in comparison to the other two isolates (G1 & DR).

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