RESEARCH ARTICLE

CHARACTERIZATION OF POTENTIAL PGPR'S ISOLATED FROM RHIZOSPHERE OF WHEAT FROM TRANS-HIMALAYAS AND THEIR EFFICACY ON SEED GERMINATION AND GROWTH PROMOTION OF WHEAT UNDER NET HOUSE CONDITIONS

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Abstract: In the present study, the diversity of rhizobacterial isolates from rhizosperic soils under wheat cultivation in districts of Solan and Sirmour of Himachal Pradesh a Himalayan belt of India. Phenotypic and genotypic characteristics of the PGPR isolates were recorded to categorize and identify the bacteria. In total seventy three rhizobacterial isolates were isolated from different locations of both the districts of which some sites were rainfed and some sites were irrigated. The characteristics of the bacterial isolates were determined using the colony morphology, gram staining as well as biochemical properties. After screening for PGP attributes *in-vitro* conditions. Three isolates (Kn-7, De-21 and Dh-7) were found hyperpotential for PGP attributes such as production of siderophore, P-solubilization, ammonia, HCN and growth regulators. These three isolates had shown maximum PGP potential *in- vitro* conditions and thus were selected to construct bioformulations for the wheat crop under net house conditions.

Keywords: Wheat, PGPR, Rhizosphere, PGP Attributes, Growth Promotion of wheat

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