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## **Characterization and screening of PGPR for plant growth promoting properties**

**Baljeet Singh Saharan**  
Kurukshetra University, India

Beneficial rhizospheric bacteria that are known to stimulate plant growth are called Plant-Growth Promoting Rhizobacteria (PGPR). The mechanisms of plant growth promotion by rhizospheric bacteria include sequestration of nutrients, production of phytohormones (IAA), production of siderophores and antagonism against plant pathogens. A close and direct association of PGPR with the rhizoplane and the inner root surface is essential for these mechanisms to be functional. Effective root colonization is also an important factor contributing to PGPR activity. In addition to the promotion of plant growth, PGPR are also employed for controlling plant pathogens, enhancing efficiency of fertilizers, and degrading xenobiotic compounds (rhizo-remediation). PGPR have been reported to be key elements for plant establishment under nutrient-imbalance conditions. Their use in agriculture can favor a reduction in agro-chemical use and support eco-friendly crop production. In our laboratory, we are working on the isolation of various bacterial strains from their autochthonous sites, characterization and PGPR properties exhibited by them. The bacterial isolates have been identified by molecular characterization/methods. Details of these isolates and properties exhibited by them will be discussed in detail in this presentation.