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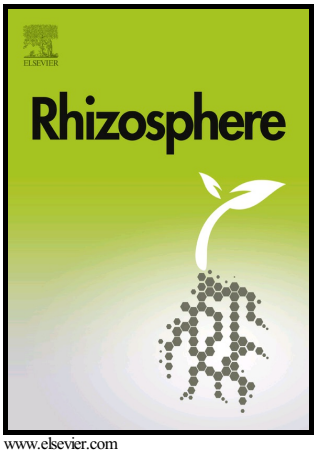

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A twin rhizospheric bacterial consortium induces systemic resistance to a phytopathogen *Macrophomina phaseolina* in mung bean.

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Abstract

The two bacterial isolates, *Pseudomonas putida* CRN-09 and *Bacillus subtilis* CRN-16, were isolated, characterized and identified as potential plant growth promoting rhizobacteria (PGPR) of *Vigna radiata* on the basis of different plant growth promoting (PGP) portrayals. The synergistic interaction between both the isolates was evaluated to develop biocoenotic consortium. The consortium showed a significant enhancement in seed germination by 18.73% in mung bean plants. Both the isolates and their consortium induced systemic resistance (ISR) in *V. radiata* under disease-prevalent conditions. The expression of ISR by a twin bacterial consortium against *Macrophomina phaseolina* was conferred substantially due to enhanced levels of peroxidase (PO), polyphenol oxidase (PPO), phenylalanine ammonia lyase (PAL), β-1,3 glucanase and chitinase. The results postulate the putative role of the consortium of *Pseudomonas putida* CRN-09 and *Bacillus subtilis* CRN-16 in exploiting the development of plant immunity.

Keywords: *Vigna radiata*, ISR, *Pseudomonas*, *Bacillus*, PGPR.