Effect of plant growth promoting rhizobacteria on yield and yield attributes of blackgram (*Vigna mungo* L.)

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ABSTRACT

A field experiment entitled "Effect of Plant Growth Promoting Rhizobacteria on yield and yield attributes of blackgram (*Vigna mungo* L.)" was conducted during *Rabi*, 2024–25 at the Agricultural College Farm, Bapatla. The experiment was laid out in a randomized block design comprising of nine treatments and three replications. The treatments consisted of, seed treatment with *Rhizobium* @ 10 mL/ kg seed (T_1), seed treatment with *Pseudomonas fluorescence* @ 10 mL/ kg seed (T_2), seed treatment with Pink-Pigmented Facultative Methylotrophic bacteria (PPFM) @ 10 mL/ kg seed (T_3), foliar spray of *Pseudomonas fluorescence* @ 5 mL/ litre (T_4), foliar spray of PPFM @ 5 mL/ litre (T_5), foliar spray of *Pseudomonas fluorescence* @ 5 mL/ litre + foliar spray of PPFM @ 5 mL/ litre (T_6), seed treatment with *Pseudomonas fluorescence* @ 10 mL/ kg seed + foliar spray of *Pseudomonas fluorescence* @ 5 mL/ litre (T_7), seed treatment with PPFM @ 10 mL/ kg seed + foliar spray of PPFM @ 5 mL/ litre (T_8) and control (T_9). All foliar sprays were applied once at 40 DAS. Among all the treatments, blackgram seeds treated with PPFM @ 10 mL/ kg seed + foliar spray of PPFM @ 5 mL/ litre recorded superior performance over control with respect to yield and yield attributes. The seed treatments and foliar sprays of PGPRs had positive effects on the yield and yield attributing traits *viz.*, number of pods per plant, pod weight, test weight and seed yield. Among all the treatments, seed treatment with PPFM @ 10 mL/ kg seed + foliar spray of PPFM @ 5 mL/ litre (T9) found to be the best, significantly increased yield and was consistent in the present study.

Keywords: *Bacterial leaf blight, Disease severity, Rice and Rice ecosystem*