

RESEARCH NOTE

# Effect of vermicompost and biofertilizer on symbiotic efficiency and yield of cowpea in arid zone of Rajasthan

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A field experiment was conducted during *Kharif* season of 2012 on loamy sand soil to study the effect of vermicompost and biofertilizers on growth, yield and quality of cowpea. The experiment consisted of four treatments of vermicompost (control, 2.0, 4.0 and 6.0 t/ha) and four treatments of biofertilizer (control, *Rhizobium*, PSB and *Rhizobium*+PSB) thereby making sixteen treatment combinations tested in Randomized Block Design with four replications. The results indicated the application of vermicompost 4.0 t/ha gave maximum and significantly higher the net returns over other treatments and remained at par with 6.0 t/ha of vermicompost. Whereas, seed yield, straw yield, biological yield, total root nodules and leghaemoglobin content significantly increased upto 6.0 t/ha and remained at par with 4.0 t/ha of vermicompost over other treatments. But, protein content in seed and effective root nodules significantly higher upto 6.0 t/ha of vermicompost over other treatments. The nitrogen fixation capacity unchanged under different levels of vermicompost. Results further indicated that combined seed inoculation with the *Rhizobium* + PSB significantly increased the seed yield, straw yield, biological yield, protein content in seed, total root nodules, effective root nodule, leghaemoglobin content, nitrogen capacity and net returns over control and other treatments.

**Key words** : Biofertilizer, Cowpea, Vermicompost, Yield

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