

## **Effect of bio-fertilizers and inorganic nutrition on black-gram (*Phaseolus mungo*) in loamy sand soil**

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**ABSTRACT :** A field experiment with black-gram (*Phaseolus mungo*) c.v. PU-31 was conducted to evaluate the response of black-gram to bio-fertilizer and inorganic nutrition in Loamy sand soil of Mid-western plains of U.P. Significantly superior plant height, pods/plant, seeds/plant and grain yield were recorded by inoculation with Rh+PSB and fertilized with 50kg FeSO<sub>4</sub> + 0.5kg Mo/ha along with recommended dose of fertilizer, branches/plant and 100-grians weight were did not increased significantly. However, maximum growth and yield attributes, grain yield and gross return during all year of experimentation as well as on pooled basis were recorded by inoculation with Rh.+PSB and fertilized with 50kg FeSO<sub>4</sub>+0.5kg Mo/ha. Higher B:C ratio (3.04) was recorded with inoculation+FeSO<sub>4</sub> @50.00kg/ha treatment. Urd-bean, the main *Kharif* pulse, grown on an acreage of 14,156 ha. in Budaun district. The productivity of this crop is low (6.52q/ha). Besides other factor, the inadequate supply of nutrients is major cause for low yield. The desirable yield of Urd-bean can not be obtained without judicious application of nutrient fertilizers. One such approach utilizes not only for the nitrogen fixation but also in increasing the availability of native and applied phosphorus to plants. Its requires not only application of N, P, K and Zn but also often supplemental does of Fe and Mo, micronutrient, are needed to be determined. Fe and Mo deficiency was also observed in light-textured soil. Among the micronutrient cations, iron was noted to be limiting element other than zinc in alkaline soils as its deficiency is being observed on several crops. A substantial amount of soluble iron in such soils gets converted into unavailable forms. However, information on doses of Fe and Mo which can ensure optimum yield of black-gram is scanty. Therefore, the present experiment was being planned to asses the effect of bio-fertilizers, Fe and Mo on growth and yield attributes and grain yield of black-gram in light-textured soil.

**Key Words :** FeSO<sub>4</sub>, Mo, RDF, Rhizobium (recommended dose of fertilizer), PSB and grain yield.