

## **Influence of nitrogen levels and biofertilizer on soil properties and performance of green gram (*Vigna radiata* L.)**

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**ABSTRACT :** A field experiment was conducted at the experimental farm of U.P.A. College, Varanasi to evaluate the influence of nitrogen levels and *Rhizobium* on soil properties and performance of green gram (*Vigna radiata* L.). Treatments comprised of three levels of nitrogen (0, 15 and 30 kg N/ha) with and without *Rhizobium* seed inoculation. The results indicate a significant improvement in organic carbon content, availability of NPK and S, pH, EC, plant height, number of branches, number of nodules, grain and straw yield of green gram over the control. The productivity and nutrients availability increased with increase in fertilizer levels. The organic carbon, available NPK and S increased with inoculation of *Rhizobium* at same level of N over chemical fertilizer alone whereas, pH, EC and bulk density decreased. Therefore, it may concluded that application of nitrogen @ 30 kg/ha along with seed inoculation with *Rhizobium* significantly increased nutrient availability as well as plant growth and yield in comparison to chemical fertilizer alone.

**Key Words :** *Rhizobium*, green gram, fertility level, crop productivity, soil properties.