

Effect of PSM, FYM and sludge on effectiveness of Bradyrhizobial strains towards yield and nutrient uptake by mungbean

Shailesh Kumar Singh¹, Vijay Kumar Singh² and S.K. Singh³

Received May 11, 2014 and Accepted August 21, 2014

ABSTRACT: A field experiment was conducted during *kharif* season at Agricultural Research Farm of Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, to study the impact of phosphate solubilizing micro-organisms, cattle dung manure and digested sludge on effectiveness of *Bradyrhizobial* strains on yield and nutrient uptake by mungbean. The experiment consisted nine treatments combinations viz. control, *Bradyrhizobium* (M05), *Bradyrhizobium* (BM1), *Bradyrhizobium* (M05) + PSM, *Bradyrhizobium* (BM1) + PSM, *Bradyrhizobium* (M05) + CDM, *Bradyrhizobium* (BM1) + CDM, *Bradyrhizobium* (M05) + Sludge, *Bradyrhizobium* (BM1) + Sludge with 3 replications in randomized block design (RBD). The nitrogen was applied @10kg/ha through urea as per starter dose while 20 kg P₂O₅/ha through single superphosphate as basal application. The seed was inoculated with molybdenum @ 20 g/ha through sodium molybdate with sticker solution. The results revealed that all the *Bradyrhizobial* strains treatments gave significant increase in the grain and straw yields of mungbean over the control. Among all the treatments *Bradyrhizobium* (M05) + CDM gave the maximum yields over other treatments. Similarly the nutrient uptake was also affected by the different combinations and *Bradyrhizobium* (M05) + CDM recorded the maximum uptake of N, P, K, S and Fe by grain as well as straw.

Key Words : Effect, PSM, FYM and Sludge, effectiveness of *Bradyrhizobial* strains, yield and nutrient uptake by mungbean.