

PROVISION OF COW MANURE FERTILIZER AND PGPR FROM BAMBOO ROOTS TO THE GROWTH AND YIELD OF LONG BEAN PLANTS (*Vigna sinensis* L.)

By : Alifia Surya Damayanti

Supervised by : Suwardi

ABSTRACT

The demand for long beans has increased every year so efforts are needed to meet the needs of long beans. The research has been carried out at the Sorogenen, Sorosutan, Umbulharjo, Yogyakarta from April to June 2023. The field experiments using factorial Randomized Complete Block Design (RCBD) with 2 factors and 1 control. The first factor is the dose of cow manure which consists of 3 levels, namely 20 tons/ha, 30 tons/ha, and 40 tons/ha. The second factor is the PGPR concentration of bamboo roots which consists of 3 levels, namely 5 mL/liter, 10 mL/liter, and 15 mL/liter. There is interaction between the pod length parameters per plant and the fresh weight of stover per experimental unit. Treatment of cow manure doses of 30 tons/ha and 40 tons/ha gave the best results on plant height parameters 35 and 49 DAP, number of leaves, number of branches, number of pods per plant, weight fresh pods per plant, fresh pod weight per experimental unit, and fresh pod weight per hectare. Treatment of bamboo root PGPR concentration of 15 mL/liter gave the best results on the parameters of number of branches, number of pods per plant, fresh pod weight per plant, fresh pod weight per experimental unit, and fresh pod weight per hectare. The combination treatment was significantly better than the control on the parameters of pod length per plant, fresh pod weight per plant, fresh pod weight per experimental unit, fresh pod weight per hectare, and fresh stover weight per experimental unit.

Keywords : Long bean, cow manure fertilizer, PGPR