

Effect of PGPR and Rhizobium Application on Growth and Production of Peanut (*Arachis hypogea*)

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ABSTRACT

The use of PGPR and Rhizobium has been proven to increase the production of several agricultural commodities. However, the simultaneous use of these two agricultural inputs needs further investigation. This experiment was to examine the effect of PGPR and Rhizobium inoculants on peanut plants. The research was conducted from December 2022 to February 2023 in Patemon Village, Pakusari District, Jember Regency. The experiment used a completely randomized design (RBD) with two factors. The first factor is PGPR concentration consisting of 10.5 ml/l, 12.5 ml/l, and 14.5 ml/l. The second factor was Rhizobium inoculants consisting of 25 kg/ha, 50 kg/ha, and 75 kg/ha. The results of this study indicated that there was no interaction between the PGPR and Rhizobium treatments. Individually, PGPR with a concentration of 14.5 ml/l was significantly superior in plant height and biomass weight. Meanwhile, 12 ml/l PGPR significantly dominated the gynophore number. Moreover, a Rhizobium dose of 75 kg/ha showed the best results in the number of pods, biomass weight, seed weight, seed weight per plot, and weight of 100 seeds. It is indicated that the application of PGPR to peanuts and rhizobium inoculation plays a role in increasing nutrient uptake which in turn increases growth and production.

Keywords: Peanut, PGPR, Rhizobium