The Effect of Applying Several Concentrations of Plant Growth Promoting Rhizobacteria (PGPR) on Bamboo Root Growth and Cowpea (Vigna Unguiculata L.) Production Supervised by Andarula Galushasti S.ST., M.Tr.P.

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ABSTRACT

Cowpea is one of the food crops that has a fairly high protein content, but the production of cowpea is still relatively small. The cultivation technology applied is still not right, so that cowpea production does not increase. This study aims to determine the effect of applying several PGPR concentrations on the growth and production of cowpea. This study was conducted on the land of the Jember State Polytechnic from July 2024 to October 2024. This study used a Non-Factorial Randomized Block Design (RBD) with 6 treatments and 4 replications. Observation data was analysed statistically using Analysis of Variance (ANOVA). The treatments were PGPR concentrations of 0 ml/L, 18 ml/L, 29 ml/L, 40 ml/L, and 51 ml/L. The results showed that PGPR treatment with a concentration of 51 ml/L showed a difference in plant height, dry seed weight per plant, and 100 seed weight per plot. This is thought to be due to the role of PGPR as a biofertilizer and biostimulant. Thus, PGPR can provide nutrition and produce growth hormone. This will have an impact On fulfilled the nutritional needs of cowpea, thus affecting the growth and production of cowpea.

Keywords: Bamboo root PGPR, biofertilizer, biostimulant, cowpea