

PGPR Application of Edamame Roots and NPK Fertilizer Ratio on Edamame Growth and Production

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ABSTRACT

International market demand for edamame in Indonesia continues to increase to 6,800 tons in 2019 so efforts are needed to increase edamame production. One of the efforts to increase production is the application of edamame root PGPR. The use of edamame root PGPR combined with NPK fertilizer can increase growth and production because it contains bacteria such as Rhizobium, Azotobacter, Bacillus, and Pseudomonas as well as to add nutrients to the soil that are more environmentally friendly. The experiment was conducted using a Factorial Randomized Block Design (RBD) with two factors and four replications. PGPR application as the first factor consisted of 4 levels, namely control (without PGPR), 100 ml/l, 150 ml/l, and 200 ml/l. The application of NPK fertilizer as the second factor consisted of 2 levels, namely the recommended dose of NPK fertilizer and 75% of the recommended dose of NPK fertilizer. The research was conducted in Sumber Pinang Village, Pakusari from September 2023 to January 2024. The observed variables consisted of plant height, number of pods per plant, pod weight per plant, and root length. Based on the results showed that the application of PGPR 100 ml/l and the dose of NPK fertilizer 75% of the recommendation gave a significantly different interaction effect on the variable number of pods per plant (38.68 pods) and the weight of pods per plant (53.76 g), while the single factor of PGPR application and the ratio of NPK fertilizer was not significantly different on all observation variables.

Key words: *PGPR edamame roots, NPK ratio, Rhizobacteria*