EFFORTS TO INCREASE EDAMAME PLANT GROWTH AND PRODUCTION BY PROVIDING EDAMAME ROOT PGPR AND LEMURU FISH AMINO ACIDS

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ABSTRACT

Edamame is a legume with high economic value and requires large amounts of NPK nutrients to support its growth and production. This study aimed to analyze the effect of Plant Growth-Promoting Rhizosphere Bacteria (PGPR) and NPK nutrient uptake on the growth and yield of edamame (Glycine max (L.) Merril). The experiment used a Factorial Randomized Block Design with two factors: edamame root PGPR (0 ml/l and 150 ml/l) and lemuru fish amino acids (0, 5, 10, 15, and 20 ml/l). Data were analyzed using ANOVA, followed by DMRT test at a significance level of 5% or 1% if there was a significant difference. The results showed that PGPR and amino acids did not significantly affect plant height, number of leaves, root length, shoot-root ratio, total pod weight, number of pods, or nutrient availability. However, amino acids and PGPR significantly increased the number of pods and reduced the percentage of empty pods. This shows that although PGPR and amino acids do not affect vegetative growth, they increase pod filling efficiency, thus contributing to increased edamame yield.

Keywords: *Amino acid, Biofertilizer,Edamame, Nutrient availability, PGPR*