

# OPTIMISATION OF THE USE OF LEMU FISH AMINO ACIDS AND EDAMAME ROOT PGPRS ON THE QUALITY OF EDAMAME CROPS

Supervisor: Jumiatun, S.P., M.Si.

**Nabila Ika Wardah**

*Study Program of Crops Production Technology*

*Departement of Agricultural Production*

## **ABSTRACT**

*Edamame is an agricultural commodity with high market value and good development prospects. The pod-filling stage plays a crucial role in determining the success of producing pods that meet premium quality standards. The study was conducted from April to August 2024 on the grounds of the Jember State Polytechnic. The objective of this study was to examine the effect of amino acid application and Plant Growth-Promoting Rhizobacteria (PGPR) on edamame yield and quality. This study used a Factorial Randomized Block Design (FRBD) with two treatment factors. The first factor was the concentration of amino acids derived from lemuru fish, consisting of five levels: 0 mL/L (control), 5 mL/L, 10 mL/L, 15 mL/L, and 20 mL/L. The second factor was the PGPR concentration, consisting of two levels: 0 mL/L (control) and 150 mL/L. The research data showed that the amino acid treatment had a significant effect on the total number of pods, the number of two-seeded pods, and the percentage of filled pods. Meanwhile, the PGPR treatment had a significant effect on the observed variables of total pod number and the number of filled pods. The amino acid treatment at a concentration of 15 mL/L increased the number of two-seed pods and the percentage of filled pods. Meanwhile, the PGPR treatment at a concentration of 150 mL/L increased the percentage of filled pods.*

**Keywords:** *Amino Acids, Edamame, Seed Quality, Plant Growth, PGPR.*