GROWTH RESPONSE OF EDAMAME PLANTS TO THE APPLICATION OF LEMURU FISH AMINO ACID-BASED BIOFERTILISER AND EDAMAME ROOT PGPR

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

Ade Jutawan Yusuf Maulana
Study Program of Crops Production Technology
Departement of Agricultural Production

ABSTRACT

Edamame is a commodity that can grow in tropical climates such as Indonesia. Edamame production in Indonesia is still low and the demand for domestic and foreign markets cannot be met. So that there needs to be an effort to increase edamame production. One of the efforts in increasing edamame production is the use of PGPR edamame roots and lemuru fish amino acids. The purpose of this study was to determine the interaction between PGPR treatment of edamame roots and lemuru fish amino acids in increasing the growth and production of edamame. This research was conducted in the experimental field of Jember State Polytechnic using Factorial Randomised Group Design with the first factor is PGPR concentration consisting of 2 levels (0 ml/l as control and 150 ml/l). While the second factor is the concentration of lemuru amino acids consisting of 5 levels (0 ml/l as control, 5 ml/l, 10 ml/l, 15 ml/l, and 20 ml/l). Data analysis used ANOVA analysis, if there is a significant difference further tested using DMRT test at 5% and 1% levels. Based on the results of the research that has been done that the treatment of PGPR edamame roots and amino acids lemuru fish as a single factor and the interaction gives a response that is not significantly different to all observation variables. The provision of lemuru fish amino acid 15 ml/l and without PGPR edamame roots is not significantly different but has the potential to increase plant height at the age of 14 HST, while the provision of lemuru fish amino acid 20 ml/l and 150 ml/l PGPR edamame roots is not significantly different but has a tendency to increase plant height at the age of 28 HST. The application of 10 ml/l lemuru fish amino acid and no edamame root PGPR had a tendency to increase the number of leaves at the age of 14 HST and 28 HST. Studies on the use of amino acids and PGPR have the potential to be reviewed in generative observations.

***Key words**: Edamame, PGPR, Amino Acid, Growth, Concentration.*