SYNERGY OF PGPR EDAMAME ROOTS AND NPK FERTILIZER DOSAGE ON EDAMAME GROWTH

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

Muh Muchlis Fakuroji
Study Program of Crops Production Technology
Departement of Agricultural Production

ABSTRACT

Edamame is an important crop in in Jember. Edamame production in Jember Regency reaches 5- 8 tons/ha. One of the factors that affect crop production is fertilization. Inorganic fertilizers provide a quick response for plants but have a negative impact in the long run. Based on this, it is necessary to increase edamame production through the use of edamame root-based biofertilizer and the efficient use of NPK fertilizer. The purpose of this study was to determine the interaction between PGPR and the dose of NPK fertilizer in increasing the growth and production of edamame. This research was conducted in the Experimental field of Jember State Polytechnic using Factorial Randomized Group Design with the first factor is PGPR concentration consisting of 4 levels (control; 100 ml/l; 150 ml/l; and 200 ml/l). While the second factor is the dose of NPK fertilizer consisting of 2 levels (recommended dose as control and 75% of the recommended dose). Data analysis using 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 PGPR treatment and NPK fertilizer dose treatment as a single factor gives a response that is not significantly different from all treatments. However, there is a significantly different interaction in the treatment of PGPR concentration 150 ml / l and NPK fertilizer dose of 75% recommendations can increase the number of pods, PGPR treatment 100 ml / l and NPK fertilizer dose of 75% recommendations can increase the number of pods.

Keyword: *Biofertilizer; edamame; edamame roots; PGPR.*