

Tuti Aris Viana Dewi , 2012, *The Effectiveness of Biofertilizer And NPK On Eggplant (Solanum melongena L.) Growth And Productivity in Polybag, THESIS, under the guidance of Dr. Ir. Tini Surtiningsih, DEA and Drs. H. Hery Purnobasuki, M.Si., Ph.D., Department of Biology Faculty of Science and Technology, Airlangga University, Surabaya.*

ABSTRACT

This study was to determine the effectiveness of biofertilizer, NPK, and their combination to increase of eggplant (Solanum melongena L.) growth and productivity. Microbial consortia used consists of Lactobacillus sp., Pseudomonas sp., Bacillus sp., Saccharomyces sp., Rhizobium sp., Azotobacter sp., Azospirillum sp. and Cellulomonas sp. This research is experimental using 4x4 factorial design. Factor biofertilizer (B) was the concentration of microbial consortia with 4 levels (0, 5, 10, and 15 mL / plant) and the chemistry (K) factor consists of NPK with 4 levels (0, 25, 50, and 75% / plant) and combination of both, and a positive control (100% NPK), with 3 replication. Parameters were observed such as, the growth of plants, including: plant height, stem and leaf biomass, root biomass, and root length. Where as parameter of the productivity include fruit amount and fruit weight. Data were analyzed using ANOVA ($\alpha = 0,05$), and followed by Duncan and Games-Howell ($\alpha = 0,05$). The results showed that giving of biofertilizer, NPK, and their combination affect on growth and productivity of eggplant plants. The best treatment of growth is K1B2 (NPK 25% and biofertilizer 10 mL/plant) for plant height 101.33 ± 6.66 cm/plant. The best treatment of productivity is K3B3 (NPK 75% and biofertilizer 15 mL/plant) for fresh fruit weight 742.83 ± 65.32 g/plant and fresh fruit amount 8 fruit/plant. K3B3 (75% and biofertilizer 15 mL/plant) the best of effectiveness with value 143%. So giving combination biofertilizer and NPK is more effective to increase eggplant growth and productivity than treatment standard (NPK 100%).

Key words: Biofertilizer, Effectiveness, Eggplant (Solanum melongena L.), NPK.