

Rivia Kumala Dewi, 2012. The Effect of Giving Microbial Consortium in Biofertilizer to The Growth and Productivity of *Arachis hypogaea* L. The advisor of this final project is Drs. Agus Supriyanto, M.Kes and Tri Nurhariyati, S.Si, M.Kes. Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

This research was aimed to know the effect of different doses microbial consortium in biofertilizer on the growth and productivity of *Arachis hypogaea* L. The microbial consortium consisted of *Azotobacter chroococcum*, *Azospirillum brasilense*, *Rhizobium leguminosarum*, *Pseudomonas fluorescens*, *Bacillus megaterium*, *Cellulomonas cellulans* and *Saccharomyces cerevisiae* used as biofertilizer and inoculated on rhizosfer of *Arachis hypogaea* L. Parameter of growth have been observed are height of plants, wet weight of nodules, and dry weight of plants. Parameter of productivity have been observed are dry weight of pods and dry weight of seeds. This research was an experimental with 6 treatments. Those are P₁ (without treatment), P₂ (20 mL urea and 20 mL SP 36), P₃ (once biofertilizer 6 mL), P₄ (twice biofertilizer 6 mL), P₅ (once biofertilizer 15 mL) and P₆ (twice biofertilizer 15 mL) with 4 replications and each replications consist of 10 plants. Data height of plants and dry weight of seeds were analyzed by one way ANOVA followed by Duncan test. Data wet weight of nodules, dry weight of plants, and dry weight of pods were analyzed by Kruskal-Wallis test followed by Mann-Whitney test. The result showed that giving microbial consortium in biofertilizer using different doses there was significant effects on the growth and productivity of *Arachis hypogaea* L. The highest mean of height plants was obtain by P₅ (76,7 cm), the highest mean wet weight of nodules was obtain by P₃ (1,5388 g), the highest mean dry weight of plants was obtain by P₆ (71,875 g), the highest mean dry weight of pods was obtain by P₄ (33,25 g) and the highest mean dry weight of seeds was obtain by P₄ (20,1193 g).

Keywords : *Arachis hypogaea* L., *microbial consortium*, *biofertilizer*, *growth*, *productivity*