

Pradita Kirana, 2012, The Effect of Biofertilizer to Increase Growth and Productivity of Oyster Mushroom (*Pleurotus ostreatus*), this study was guided by Drs Agus Supriyanto, M.Kes and Drs. Salamun, M.Kes., Departemen of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

The research has done to investigate the effect of biofertilizer to increase growth and productivity of the oyster mushroom (*Pleurotus ostreatus*) also to know effectivity of biofertilizer as substitute for chemical fertilizer. Biofertilizer consist of nitrogen-fixing bacteria (*Azotobacter sp.* And *Rhizobium sp.*), Phosphate solubilizing bacteria (*Bacillus sp.* And *Pseudomonas sp.*) And organic decomposer bacteria (*Cellulomonas sp.*, *Lactobacillus plantarum* and *Saccharomyces cereviceae*) which inoculated on media *Baglog* . The parameters growth and productivity are the number of fruiting bodies in a clump and the wet weight of oyster mushrooms. This research was conducted with experimental methods using factorial design with 3 replication and consist of two factors that is concentration of biofertilizer with 3 level of treatments concentration 5 mL (K_1), 10 mL (K_2), 15 mL (K_3) and the frequency of biofertilizers with 3 level of treatment that is one time during the growing season (I_1), two times during the growing season (I_2), three times during the growing season (I_3). For the negative control treatment (K^-) were not given fertilizer treatment, while the positive control (K^+) were given NPK fertilizer. Analysis of the data used by two-way ANOVA with advanced test Duncan. Statistical test results showed that the effect of biofertilizers treatmeant affect the growth and productivity of oyster mushrooms. The highest average of number fruiting bodies is in the positive control treatment (K^+) $12:20 \pm 1:11$. The highest average of wet weight is in the K_2I_1 treatment 114.40 ± 3.64 gram. Biofertilizer effective to substitute chemistry fertilizer and the highest value of RAE (*relative agronomic effectiveness*) on K_2I_1 treatment is 140.28% .

Keywords: oyster mushroom (*Pleurotus ostreatus*), biofertilizer, *Baglog*