

**Dyah Ayu Sri Hartanti, 2015. "Pengaruh Pemberian Dosis dan frekuensi Biofertilizer terhadap Pertumbuhan Bibit Mahoni (*Swietenia mahagoni* L.). Skripsi ini di bawah bimbingan Drs. Agus Supriyanto, M.Kes. dan Prof. Dr. Tini Surtiningsih, Ir. DEA, Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.**

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### ABSTRAK

Tujuan dari penelitian ini adalah untuk mengetahui pengaruh berbagai dosis dan frekuensi pemberian *biofertilizer* terhadap pertumbuhan bibit mahoni. Penelitian ini bersifat eksperimental dengan rancangan acak lengkap (RAL) dengan 11 perlakuan, yaitu K-, K+f1, B20f1, B40f1, B60f1, B80f1, K+f2, B20f2, B40f2, B60f2, B80f2 . K+ (Kontrol positif, yaitu pemberian NPK 0,5 gram ). K- (kontrol negatif, yaitu tanpa pupuk). B20, B40, B60, B80 yaitu Biofertilizer (20, 40, 60, 80 mL/tanaman). F1, F2 (Frekuensi 1 minggu sekali, 2 minggu sekali). Tiap perlakuan terdiri dari 4 ulangan. Variabel terikat meliputi pertumbuhan (tinggi tanaman, diameter batang, jumlah daun, dan kadar klorofil). Data hasil pengamatan yang normal dan homogen dianalisis dengan anova satu arah dan dilanjutkan dengan uji *Duncan* untuk mengetahui beda nyata antar perlakuan. Data yang normal dan tidak homogen dianalisis dengan *Brown Forsythe* dan dilanjutkan dengan uji *Gomes-Howell* untuk mengetahui beda nyata antar perlakuan dengan taraf 5%. Hasil penelitian menunjukkan bahwa pemberian *biofertilizer* berpengaruh nyata terhadap tinggi tanaman, diameter batang, jumlah daun, dan kadar klorofil dibandingkan perlakuan kontrol. Hasil tertinggi berturut-turut diperoleh nilai tinggi tanaman B60f1 ( $29.4 \pm 1.26$  cm/tanaman), diameter batang ( $0.48 \pm 0.21$  cm/tanaman), jumlah daun ( $41 \pm 2.16$  helai/ tanaman), dan kadar klorofil daun ( $66.448 \pm 1.513$  mg/L).

**Kata kunci :** *Biofertilizer, frekuensi, dosis, pertumbuhan, mahoni (Swietenia mahagoni L.)*

**Dyah Ayu Sri Hartanti, 2015. "The Effect Doses and Frecuency of Biofertilizer on Growth of mahogany seedlings (*Sweietenia mahagoni* L.). This study is under supervised by Drs. Agus Supriyanto, M.Kes and Prof. Dr. Tini Surtiningsih, Ir. DEA. Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya .**

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### ABSTRACT

The objective of this study was to understand the effect from giving biofertilizer in various doses and frecuency on growth of mahogany seedlings. This research is experimental with completely random design (CRD) with 11 treatments, there are K-, K+F1, B20F1, B60F1, B80F1, K+F2, B20F2, B40F2, B60F2, B80F2, K+ (positive control treatment was given NPK 0.5 grams). K- (negative control treatment was not given fertilizer). B20, B40, B60, B80 were given Biofertilizer (20, 40, 60, 80ml/plant). F1, F2 (frequency of once a week, frequency of once every two weeks). Every treatment consists of 4 repetitions. The dependent variables include to growth (length of plant, diameter of stem, the number of leaf, and clorophyl concentrate.). The data form normal and homogeny observation analyzed with one-way anova and continued with *Duncan* test to determine the significant difference between each treatments. The data from normal and unhomogen observation analyzed with *Brown forsythe* and continued with *Gomes-Howell* test to determine the significant difference between each treatments in concentrate 5%. The result of this study showed that giving *biofertilizer* give a significant effect for the length of plant, diameter of stem, number of leaf, and clorophyl concentrate are more effective than control treatment. The highest values form length of plant on B60F1 ( $29.4 \pm 1.26$  cm/plant), the number of rod diameter ( $0.48 \pm 0.21$  cm/plant), the number of leaf ( $41 \pm 2.16$  strand/plant), and clorophyl concentrate ( $66.448 \pm 1.513$  mg/L).

**Key words :** *Biofertilizer, frequency, doses, growth, mahagony (Swietenia mahogany L.)*