

INTISARI

Penelitian ini mempunyai tujuan untuk mengetahui pengaruh inokulasi cendawan mikorisa arbuskula, media Ultisol dan pupuk batuan fosfat terhadap pertumbuhan semai *Gmelina arborea* Roxb diukur dari parameter; tinggi, diameter, berat kering total, berat kering bagian atas tanaman, nilai kekokohan semai dan persen akar terinfeksi.

Penelitian dilakukan di rumah kaca Fakultas Kehutanan Universitas Gadjah Mada selama 3 bulan dengan menggunakan percobaan faktorial yang disusun dalam rancangan acak lengkap dengan perincian faktor media (M) yaitu tipe Hapludult (M1), tipe Kanhapludult (M2), tipe Rhodudult (M3), faktor inokulasi Cendawan Mikorisa Arbuskula (CMA) yaitu kontrol (tanpa inokulasi CMA) (C0), inokulum H1.125 (C1), inokulum H3.125 (C2), inokulum H5.125 (C3), inokulum K1.125 (C4), inokulum K3.125 (C5), inokulum K5.125 (C6), inokulum R3.125 (C7), inokulum R4.125 (C8), inokulum R5.125 (C9), inokulum H1.63 (C10), inokulum H3.63 (C11), inokulum H5.63 (C12), inokulum K1.63 (C13), inokulum K3.63 (C14), inokulum K5.63 (C15), inokulum R3.63 (C16), inokulum R4.63 (C17), inokulum R5.63 (C18) dan faktor pupuk rock fosfat yaitu tanpa pupuk batuan fosfat (P0) dan dengan penambahan pupuk batuan fosfat (P1).

Hasil penelitian menunjukkan bahwa inokulasi cendawan mikorisa arbuskula (CMA), media tanah Ultisol dan pupuk batuan fosfat pengaruhnya berbeda sangat nyata terhadap semua parameter yang diuji. Jenis CMA yang terbaik untuk parameter tinggi semai, diameter semai, berat kering total semai, berat kering bagian atas tanaman dan persen akar terinfeksi yaitu inokulum K1.125 (C4), jenis media Ultisol Kanhapludult (M2) dan dengan penambahan pupuk batuan fosfat (P1). Interaksi antara media dan inokulasi CMA memberikan pengaruh yang sangat nyata untuk semua parameter yang diuji yaitu; tinggi semai, diameter semai, berat kering total, berat kering bagian atas tanaman, nilai kekokohan semai dan persen akar terinfeksi. Interaksi antara cendawan dan pupuk batuan fosfat pengaruhnya berbeda nyata hanya pada parameter berat kering bagian atas tanaman. Interaksi antara media dan pupuk batuan fosfat pengaruhnya berbeda nyata pada parameter diameter semai dan berat kering total semai, berbeda tidak nyata untuk parameter tinggi semai, berat kering bagian atas tanaman, nilai kekokohan semai dan persen akar terinfeksi. Interaksi antara media, cendawan dan pupuk batuan fosfat pengaruhnya tidak berbeda nyata untuk semua parameter yang diuji.



ABSTRACT

The objective of the study is to investigate the impact of the Vesicular-arbuscular mycorrhizal inoculation, the medium of Ultisol and rock phosphate fertilizer on the bud growth of *Gmelina arborea* Roxb with the parameter of height, diameter, total dry weight, the weight of the top part of the plant, the bud firmness value and the percentage of the infected root.

The study is conducted in the green house of the Faculty of Forestry of Gadjah Mada University in 3 months using factorial complete randomized design experiment consisting of medium factor (M) of the types of Hapludult (M1), Kanhapludult (M2), Rhodudult (M3), the inoculation factor of vesicular-arbuscular mycorrhizal (VAM) consisting of controlled experiment (without VAM inoculation) (C0), inoculum H1.125 (C1), inoculum H3.125 (C2), inoculum H5.125 (C3), inoculum K1.125 (C4), inoculum K3.125 (C5), inoculum K5.125 (C6), inoculum R3.125 (C7), inoculum R4.125 (C8), inoculum R5.125 (C9), inoculum H1.63 (C10), inoculum H3.63 (C11), inoculum H5.63 (C12), inoculum K1.63 (C13), inoculum K3.63 (C14), inoculum K5.63 (C15), inoculum R3.63 (C16), inoculum R4.63 (C17), inoculum R5.63 (C18) and the factor of rock phosphate fertilizer, namely without the rock phosphate fertilizer (P0) with the addition of the rock phosphate fertilizer (P1).

The result of the study shows that the inoculation of the VAM, the medium of Ultisol soil and the rock phosphate fertilizer has a significantly different impact to all of the parameters tested. The best variety of VAM for the parameter of but height, but diameter, total dry but weight, the dry weight of the top of the plant and the percentage of the infected root, namely the inoculum K1.125 (C4), the medium of Kanhapludult ultisol (M2) with the addition of rock phosphate fertilizer (P1). The interaction between the medium and the VAM inoculation gives a significant impact to all of the parameters tested, namely: bud height, bud diameter, total dry weight, the dry weight of the top part of the plant, the bud firmness value of the plan and the percentage of the infected root. The interaction between the VAM and the rock phosphate fertilizer gives a significantly different impact to the parameter of the dry weight of the top part of the plant. The interaction between the medium and the rock phosphate fertilizer gives a significantly different impact to the parameter of the bud diameter and the total weight of the dry bud, and does not significantly different in the parameter of but height, the dry weight of the top part of the plant, the bud firmness value and the percentage of the infected root. The interaction between medium, VAM and rock phosphate fertilizer does not gives significant impact to all of the parameters tested.

