



Effect of Shading Intensity, P Fertilizer Application
and Mycorrhizae inoculation to the Seedlings
Growth of *Pinus oocarpa* Schiede

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ABSTRACT

The aims of this research were to test the effect of shading variation (at 0%, 60%, 90%) , concentration of rock phosphate fertilizer (at 0g/l, 20g/l, 40g/l, 60g/l) , and mycorrhizae inoculation with spore suspension concentrate 0g/l, 5g/l, 10g/l and 15g/l to the growths of *P. oocarpa* seedlings. This experiment was done for five months in green house of Forestry Faculty, Gadjah Mada University, Yogyakarta.

Split-Split-Plot Design with Randomized Complete Block Design with two replications was used in this research. The shading as main plot, the concentration of fertilizer as sub-plot , and the concentration spore in suspension as sub-sub plot. The parameters measured were growth height , growth diameter , percentage of mycorrhizae , root dry weight , stem dry weight , and the total of dry weight.

Shading significantly affected on height , diameter , growth diameter , and root dry weight. The concentration of fertilizer (at 20g/l, 40g/l, 60g/l) had no significant effect on the growth of *P. oocarpa* seedlings. Meanwhile the spore concentration significantly affected on height and diameter growth , percentage of mycorrhizae , and root dry weight. The combination between shading intensity and spore concentration significantly affected on root dry weight and the total dry weight. The combination of shading intensity , concentration of phosphate fertilizer and spore concentration significantly affected on the total dry weight of plant.

Pengaruh Intensitas Naungan, Pemberian Pupuk P dan
Inokulasi Jamur Mikorisa terhadap
Pertumbuhan Semai *Pinus oocarpa* Schiede

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IHTI SARI

Tujuan penelitian ini adalah mengetahui pengaruh perlakuan variasi intensitas naungan 0%, 60%, 90% dan konsentrasi pupuk P 0g/l, 20g/l, 40g/l, 60g/l serta inokulasi jamur mikorisa dengan konsentrasi spora 0g/l, 5g/l, 10g/l dan 15g/l terhadap pertumbuhan semai *P. oocarpa*. Penelitian ini dilaksanakan selama 5 bulan di rumah kaca Fakultas Kehutanan Universitas Gadjah Mada, Yogyakarta.

Rancangan percobaan yang dipakai adalah *Split-Split-Plot Design* dengan acak lengkap berblok dalam dua replikasi. Perlakuan intensitas naungan sebagai *main plot*, konsentrasi pupuk sebagai *sub plot* dan konsentrasi spora sebagai *sub sub-plot*. Parameter yang diamati adalah tinggi, pertambahan tinggi, diameter, pertambahan diameter, persen mikorisa, berat kering akar, berat kering batang, dan berat kering total.

Intensitas naungan berpengaruh nyata terhadap tinggi, diameter, pertambahan diameter dan berat kering akar. Sedangkan konsentrasi pupuk tidak berpengaruh nyata terhadap pertumbuhan semai *P. oocarpa* pada konsentrasi 20g/l, 40g/l dan 60g/l. Sementara itu konsentrasi spora berpengaruh nyata terhadap tinggi, pertambahan tinggi, pertambahan diameter, persen mikorisa, berat kering akar, berat kering batang dan berat kering total. Variasi kombinasi antara intensitas naungan dan konsentrasi spora berpengaruh nyata terhadap berat kering akar dan berat kering total. Sedangkan variasi kombinasi antara intensitas naungan, konsentrasi pupuk dan konsentrasi spora berpengaruh nyata terhadap berat kering total.