

**PENGARUH UKURAN *SINGLETUBE*, KOMPOSISI MEDIA, DAN  
DOSIS PUPUK NPK TERHADAP PERTUMBUHAN SEMAI *Acacia*  
*crassicarpa* A.Cunn. ex Benth.**

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**INTISARI**

Pembangunan Hutan Tanaman Industri (HTI) di Indonesia perlu ditingkatkan efektifitas dan efisiensi dalam produksi bibit. Ketersediaan unsur hara dan nutrisi diperlukan untuk memproduksi semai *Acacia crassicarpa* yang berkualitas. Penelitian ini bertujuan untuk mengetahui pengaruh ukuran *singletube*, komposisi media, dan dosis pupuk NPK terhadap pertumbuhan semai *Acacia crassicarpa*.

Rancangan penelitian yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan tiga faktor percobaan, yaitu ukuran *singletube* (kecil, diameter 3 cm (K1) dan besar, diameter 5 cm (K2)), komposisi media (tanah:kompos:sekam = 3:2:1 (M1) dan *cocopeat* (M2)), dan dosis pupuk NPK (0 gram (P0), 0,4 gram (P1), 0,8 gram (P2), dan 1,2 gram (P3)). Terdapat 16 kombinasi perlakuan dan total semai yang digunakan yaitu sebanyak 80 semai. Parameter yang diamati dan diukur adalah tinggi, diameter, klorofil, biomassa akar, biomassa tajuk, kekokohan semai, rasio tajuk akar, dan indeks mutu bibit.

Hasil analisis menunjukkan bahwa ukuran *singletube* memberikan pengaruh nyata terhadap parameter tinggi, biomassa akar, biomassa tajuk, dan indeks mutu bibit. Pada perlakuan media berpengaruh nyata terhadap semua parameter pengamatan. Kemudian perlakuan dosis pupuk NPK memberikan pengaruh nyata pada tinggi, diameter, klorofil, biomassa, kekokohan semai, dan indeks mutu bibit. Namun, interaksi antara perlakuan ukuran *singletube*, media, dan dosis pupuk NPK tidak memberikan pengaruh yang nyata. Pada ukuran *singletube* besar (diameter=5 cm), media *cocopeat*, dan dosis pupuk NPK 0,8 gram/semai menghasilkan perumbuhan semai terbaik.

**Kata Kunci:** *Acacia crassicarpa*, *Singletube*, Media, Dosis Pupuk

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## THE EFFECT OF SINGLETUBE SIZE, MEDIA COMPOSITION, AND DOSAGE OF NPK FERTILIZER ON THE GROWTH OF *Acacia* *crassicarpa* A.Cunn. ex Benth.

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### ABSTRACT

The development of Industrial Forest Plantations (HTI) in Indonesia needs to improve the effectiveness and efficiency of seedling production. The availability of nutrient elements and nourishments is needed to produce quality *Acacia crassicarpa* seedlings. This study aims to determine the effect of singletube sizes, media composition, and NPK fertilizer doses on the growth of *Acacia crassicarpa* seedlings.

The research design used was a Completely Randomized Design (CRD) with three experimental factors, namely singletube size (small, 3 cm diameter (K1) and large, 5 cm diameter (K2)), media composition (soil compost husk = 3:2:1 (M1) and cocopeat (M2)), and NPK fertilizer dosage (0 grams (P0), 0,4 grams (P1), 0,8 grams (P2), and 1,2 grams (P3)). There were 16 treatment combinations and a total of 80 seedlings were used. The parameters observed and measured were height, diameter, root biomass, crown biomass, sturdiness index, top-root ratio, and seedlings quality index.

The results of the analysis showed that singletube size had a significant effect on the parameters of height, root biomass, crown biomass, and seedling quality index. The media treatment had a significant effect on all observation parameters. Then the NPK fertilizer dose treatment had a significant effect on height, diameter, chlorophyll, biomass, sturdiness index, and seedling quality index. However, the interaction between of singletube size, media, and the dose of NPK fertilizer did not give a significant effect. Large singletube size (diameter 5 cm), cocopeat media, and NPK fertilizer dosage of 0,8 grams/seedling produced the best seedling growth.

**Keywords:** *Acacia crassicarpa*, Singletube, Media, Fertilizer Dosage

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