

## **PENGARUH SUMBER BENIH DAN UKURAN KONTAINER TERHADAP PERTUMBUHAN SEMAI *Acacia auriculiformis* UMUR EMPAT BULAN**

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### **INTISARI**

Formis (*A. auriculiformis*) termasuk salah satu jenis tanaman cepat tumbuh yang dapat dimanfaatkan sebagai kayu pertukangan, kayu energi, kayu bakar, bahan baku arang, *pulp*, dan naungan tanaman pertanian. Dalam rangka penanaman formis diperlukan bibit berkualitas berdasarkan mutu genetik dan mutu fisik fisiologis. Mutu genetik berkaitan dengan pemilihan bahan dari sumber benih yang berkualitas. Mutu fisik fisiologis berkaitan dengan rangkaian kegiatan persemaian salah satunya pemilihan ukuran kontainer yang ideal. Informasi mengenai sumber benih dan ukuran *polybag* yang tepat untuk bibit formis ini masih terbatas sehingga perlu diadakan penelitian. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh sumber benih dan ukuran kontainer serta interaksi keduanya terhadap pertumbuhan *A. auriculiformis* umur empat bulan.

Penelitian dilakukan di *glasshouse*, Laboratorium Silvikultur Intensif, Fakultas Kehutanan, Universitas Gadjah Mada. Penelitian ini menggunakan *Randomized Complete Block Design* yang terdiri dari perlakuan sumber benih (Queensland (Q), Vietnam (V)) dan ukuran *polybag* (kecil 10 cm x 15 cm (K), sedang 15 cm x 18 cm (S), dan besar 17 cm x 18 cm (B)) dengan jumlah semai setiap perlakuan sebanyak 8 bibit. Terdapat ulangan sebanyak 3 blok. Parameter yang diamati adalah tinggi semai, diameter batang, jumlah bintil akar, jumlah daun, biomassa daun, biomassa batang, biomassa akar, biomassa total, dan *top-root ratio*.

Hasil penelitian menunjukkan bahwa sumber benih berbeda nyata terhadap pertumbuhan tinggi dan jumlah daun semai formis umur 4 bulan. Nilai pertumbuhan tinggi dan jumlah daun semai formis dari sumber benih Vietnam lebih tinggi dibandingkan sumber benih Queensland. Perlakuan ukuran kontainer berbeda nyata pada semua parameter. Pertumbuhan semai pada *polybag* berukuran sedang dan besar menghasilkan nilai pertumbuhan tanaman yang lebih tinggi dibandingkan *polybag* berukuran kecil. Ukuran *polybag* medium (15 cm x 18 cm) menunjukkan pertumbuhan semai *A. auriculiformis* yang optimal pada umur 4 bulan.

Kata kunci: *Acacia auriculiformis*, ukuran kontainer, sumber benih, pertumbuhan semai.

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## **THE EFFECT OF SEED SOURCE AND CONTAINER SIZE ON THE GROWTH OF FOUR-MONTHS *Acacia auriculiformis* SEEDLINGS**

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### **ABSTRACT**

*A. auriculiformis* is a fast-growing plant that can be used as carpentry wood, energy wood, firewood, charcoal raw material, pulp, and shading for agricultural crops. Good quality of seedlings are determined by the quality of seeds and physical-physiological quality of seedling performance. Genetic quality can be affected by quality of seed sources and physical-physiological quality of seedlings which is related to a series of nursery activities including container size. Information regarding the seed source and container size for growing *A. auriculiformis* is limited. The purpose of this research was to determine the effect of seed sources and container size and interaction between both treatments on the growth of *A. auriculiformis* at age of four months.

The research was conducted in the glasshouse, at the Intensive Silviculture Laboratory, Faculty of Forestry, Universitas Gadjah Mada. The experiment used a randomized complete block design consisting of treatment of seed sources (Queensland (Q), Vietnam (V)) and container sizes (small (10 cm x 15 cm) (K), medium (15 cm x 18 cm) (S), and large (17 cm x 18 cm) (B)) with 8 seedlings for each treatment. There were 3 blocks as replications. Parameters observed were seedling height, stem diameter, number of nodules, number of leaves, leaf biomass, stem biomass, root biomass, total biomass, and top-root ratio.

The results showed that the seed sources had a significant difference in the height and number of leaves of *A. auriculiformis* seedlings at age 4 months. The average means of height and leaf number of the Vietnam seed source were higher than those of the Queensland seed source. The container size had significant effects on plant growth at treatment all parameters measured. The medium and large sizes resulted better growth of the seedlings than that of the small size. The results suggest that the medium size of container (15 cm x 18 cm) provides an optimum growth of *A. auriculiformis* seedlings at age 4 months.

Key words: *Acacia auriculiformis*, container size, seed source, seedling growth

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