

DISTRIBUSI RADIAL KADAR EKSTRAKTIF DARI TUJUH VARIETAS HIBRID AKASIA (*A. mangium* × *A. auriculiformis*) ASAL PALEMBANG, SUMATERA SELATAN

Friska Alfiana Alzuhdy¹, Rizki Arisandi², Sri Sunarti³

INTISARI

Dalam rangka penyediaan sumber bahan baku pulp dan kertas yang unggul dan berkelanjutan, Badan Riset dan Inovasi Nasional (BRIN) dan PT Arara Abadi Region Palembang mengembangkan varietas hibrid akasia (*A. mangium* × *A. auriculiformis*). Penelitian ini bertujuan untuk mendapatkan varietas hibrid akasia terbaik yang ditanam di Palembang sebagai bahan baku pulp dan kertas berdasarkan kadar ekstraktif dan berat jenisnya.

Penelitian ini menggunakan 35 pohon dari tujuh varietas hibrid akasia (Purwo Sri Ah050, Purwo Sri Ah051, Purwo Sri Ah053, Purwo Sri Ah056, Purwo Sri Ah057, Purwo Sri Ah059, dan Purwo Sri Ah065) umur 4 tahun yang tumbuh di lahan marginal *marine clay* Palembang. Sampel diambil pada ketinggian DBH, dibagi menjadi dua bagian (teras dan gubal), kemudian diukur kadar ekstraktifnya secara berurutan (*n*-heksana, metanol, dan air panas) serta berat jenisnya. Data dianalisis secara statistik menggunakan ANOVA.

Hasil penelitian menunjukkan kisaran kadar ekstraktif *n*-heksana, metanol, air panas, dan total berturut-turut adalah 1,52–2,00%; 2,70–5,05%; 0,69–0,97%; dan 5,07–7,94%. Secara keseluruhan, kadar ekstraktif terendah ditemukan pada varietas Purwo Sri Ah053 dan tertinggi pada Purwo Sri Ah057. Sementara itu, berat jenis berkisar antara 0,30–0,41 (terendah Purwo Sri Ah050; tertinggi Purwo Sri Ah051 dan Purwo Sri Ah057). Korelasi antara kadar ekstraktif dan berat jenis menunjukkan hasil positif moderat, dengan nilai korelasi tertinggi ditemukan pada kadar ekstraktif total di bagian kayu teras ($r = 0,458$). Berdasarkan kadar ekstraktif dan berat jenis, Purwo Sri Ah051 dan Purwo Sri Ah057 dengan berat jenis moderat tertinggi (0,41) serta Purwo Sri Ah053 dengan kadar ekstraktif total terendah (5,07%) layak dipertimbangkan sebagai varietas hibrid akasia terbaik untuk bahan baku pulp dan kertas.

Kata Kunci: Teras, gubal, pulp dan kertas, *marine clay*, berat jenis.

¹ Mahasiswa Departemen Teknologi Hasil Hutan, Fakultas Kehutanan UGM

² Staf Pengajar Departemen Teknologi Hasil Hutan, Fakultas Kehutanan UGM

³ Peneliti Badan Riset dan Inovasi Nasional

RADIAL DISTRIBUTION OF EXTRACTIVE CONTENT IN SEVEN VARIETIES OF *Acacia* hybrid (*A. mangium* × *A. auriculiformis*) FROM PALEMBANG, SOUTH SUMATRA

Friska Alfiana Alzuhdy¹, Rizki Arisandi², Sri Sunarti³

ABSTRACT

To provide superior and sustainable sources of pulp and paper raw materials, the National Research and Innovation Agency (BRIN) and PT Arara Abadi Palembang Region developed *Acacia* hybrid varieties (*A. mangium* × *A. auriculiformis*). This study aimed to determine the best *Acacia* hybrid varieties planted in Palembang as pulp and paper raw materials based on their extractive content and specific gravity.

This study used 35 trees from seven *Acacia* hybrid varieties (Purwo Sri Ah050, Purwo Sri Ah051, Purwo Sri Ah053, Purwo Sri Ah056, Purwo Sri Ah057, Purwo Sri Ah059, and Purwo Sri Ah065) aged 4 years grown on marginal *marine clay* soil in Palembang. Samples were taken at breast height (DBH), divided into two sections (heartwood and sapwood), and then successively measured for extractive content (*n*-hexane, methanol, and hot water) and specific gravity. Data were analyzed statistically using ANOVA.

The results showed that the range of *n*-hexane, methanol, hot water, and total extractive content was 1.52 to 2.00%; 2.70 to 5.05%; 0.69 to 0.97%; and 5.07 to 7.94%, respectively. Overall, the lowest extractive content was found in the Purwo Sri Ah053 and the highest was found in Purwo Sri Ah057. Meanwhile, the specific gravity ranged from 0.30 to 0.41 (the lowest was Purwo Sri Ah050; the highest was Purwo Sri Ah051 and Purwo Sri Ah057). The correlation between extractive content and specific gravity showed moderate positive results, with the highest correlation value found in the total extractive content in the heartwood ($r = 0.458$). Based on the extractive content and specific gravity, Purwo Sri Ah051 and Purwo Sri Ah057 with the highest moderate specific gravity (0.41) and Purwo Sri Ah053 with the lowest total extractive content (5.07%) are considered as the best *Acacia* hybrid variety for pulp and paper raw materials.

Keywords: Heartwood, sapwood, pulp and paper, marine clay, specific gravity.

¹ Student of Forest Products Technology Department, Faculty of Forestry UGM

² Lecturer of Forest Products Technology Department, Faculty of Forestry UGM

³ Researcher of National Research and Innovation Agency