

Kadar Ekstraktif Kayu *Dipterocarpus confertus*, *Vatica sarawakensis*, dan *Shorea retusa* dengan Perlakuan Perendaman di Laut

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INTISARI

Pasokan kayu bulat hutan alam di Kalimantan memiliki keistimewaan dibandingkan dengan wilayah lain di Indonesia. Kondisi alam dan besarnya biaya transportasi menyebabkan hampir seluruh Ijin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Alam (IUPHHK-HA) di Kalimantan memanfaatkan sungai sebagai sarana transportasi. Kondisi ini juga mendorong sebagian besar IUPHHK di Kalimantan mendirikan industri pengolahan hasil kayu di pinggir sungai. Dalam prakteknya, penyimpanan kayu sebagai bahan baku industri ditempatkan pada *logpond* dan banyak pemanfaatan kayu untuk konstruksi terendam di laut.

Kayu famili Dipterocarpaceae beserta kelas awet yang digunakan dalam penelitian ini yaitu *Dipterocarpus confertus* (DC) (kelas awet I), *Vatica sarawakensis* (VS) (kelas awet III), dan *Shorea retusa* (SR) (kelas awet IV) dan tanpa perendaman dan yang direndam di air laut selama 6 bulan masing-masing 2 ulangan. Ekstraksi dilakukan bertingkat dengan pelarut (n-Heksana, metanol, dan air panas). Pengukuran kadar fenolat dan polisakarida dari ekstrak terlarut metanol. Analisis komponen kimia menggunakan GC-MS.

Nilai kadar ekstraktif dari terlarut n-Heksana (KEH), metanol (KEM), dan air panas (KEAP) berturutan berkisar antara 0,43-5,81%; 4,92-12,37%; 0,65-2,27%. Nilai kadar ekstraktif pada ketiga jenis kayu setelah perendaman menunjukkan kecenderungan yang bervariasi antar spesies. Nilai kadar fenolat cenderung mengalami kenaikan sedangkan nilai kadar polisakarida turun setelah perendaman. Analisis komponen kimia dari 3 jenis kayu banyak mengidentifikasi komponen asam lemak setelah perendaman pada ekstrak terlarut n-Heksana seperti *cis-vaccenic acid* (27,34%) pada DC, *palmitic acid* (23,42%) pada SR dan *cycloeucalenol acetate* pada VK (21,21%).

Kata Kunci: Dipterocarpaceae, kadar ekstraktif, perendaman, air laut, fenolat

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Extractive Content of *Dipterocarpus confertus*, *Vatica sarawakensis*, and *Shorea retusa* Woods with Soaking Treatment in Sea

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ABSTRACT

The supply of natural forest logs in Kalimantan is unique compared to other area in Indonesia. Natural conditions and the high cost of transportation have caused almost all Concession of Forest Plantation Wood Production (IUPHHK-HA) in Kalimantan uses rivers as a means of transportation. This condition has also prompted some IUPHHK in Kalimantan to build wood product processing industries on the banks of rivers. In the practice, storage of wood as industrial raw material is placed in the logpond and several woods have been utilized for marine constructions.

Dipterocarp woods used in this study were *Dipterocarpus confertus* (DC) (durability class I), *Vatica sarawakensis* (VS) (durability class III), and *Shorea retusa* (SR) (durability class IV) and without soaking and soaked in seawater for 6 month with 2 replications. Extraction was carried out in successive with 3 solvents (n-hexane, methanol, and hot water). Phenolic and polysaccharide levels were also measured in methanol extracts. GC-MS was used for chemical compound analysis.

The extractive content by n-hexane soluble extract (KEH), methanol (KEM) and hot water (KEAP)) respectively ranged from 0.43-5.81%; 4.92-12.37%; 0.65-2.27%. The extractive content in 3 species after soaking showed varied tendencies among species. The phenolic content was increased whereas polysaccharide content decreased after soaking. Analysis of the chemical components of 3 species identified several fatty acid components after soaking in n-hexane soluble extracts such as *cis-vaccenic acid* (27.34%) in DC, *palmitic acid* (23.42%) in SR, and *cycloeucaleanol acetate* in VK (21.21%).

Keywords: Dipterocarpaceae, extractive content, soaking treatment, sea water, phenolic

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