

PENGAWETAN KAYU TISUK (*Hibiscus macrophyllus* Roxb.) MELALUI RENDAMAN DINGIN DENGAN BAHAN PENGAWET BORIC ACID EQUIVALENT

(*Tisuk* (*Hibiscus macrophyllus* Roxb.) Wood Preservation Using Boric Acid Equivalent with Cold Immersion Method)

Endah Suhaendah & M. Siarudin

Balai Penelitian Teknologi Agroforestry
Jl. Raya Ciamis -Banjar Km. 11, Ciamis 46201
e-mail: msiarudin@yahoo.com

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ABSTRACT

Tisuk (*Hibiscus macrophyllus* Roxb.) is one of fast growing tree species widely planted in private forest mainly in Java Island. However one of the weaknesses of *tisuk* wood is the low durability which is categorized as durability class of III/IV. This paper studies the durability improvement of *tisuk* wood using Boric Acid Equivalent (BAE) with cold immersion method. The *tisuk* wood samples were taken from a private forest in Sukamulih Village, Sariwangi Sub-district, Tasikmalaya Regency. The treatments applied were wood thickness (thickness of 2.5 cm, 5 cm, 7.5 cm and 10 cm); immersion time (3 days, 5 days and 7 days); and two preservative concentration (5% and 10%). Each treatment was replicated in 10 specimens (total of 240 specimens). The parameters measured were the retention and penetration of preservative solutions. The analysis of variance shows that the retention of the preservative solutions was significantly different for the wood thickness treatment but it was not significant for other treatments (immersion time and preservative concentration). Meanwhile, the penetration of the preservative solutions was not significantly different for all of the treatments. The retention and penetration of the preservative solution fulfilled the minimum standard required by Indonesian National Standard for wood preservation in all treatments. Based on the analysis, the wood preservation method recommended for *tisuk* wood using boron and boric acid solutions is 3 days of duration of immersion with concentration of 5% for all of wood thickness treatments (2.5 cm, 5 cm, 7.5 cm and 10 cm).

Keywords: Retention, penetration, cold immersion, *tisuk*, wood preservation

ABSTRAK

Tisuk (*Hibiscus macrophyllus* Roxb.) adalah salah satu jenis tanaman cepat tumbuh yang banyak dikembangkan di hutan rakyat, terutama di Pulau Jawa. Salah satu kelemahan jenis ini adalah tingkat keawetannya yang rendah (kelas awet III/IV). Dalam rangka meningkatkan masa pakai kayu *tisuk*, penelitian mengenai pengawetan kayu *tisuk* dengan larutan *Boric Acid Equivalent* (BAE) melalui perendaman dingin telah dilakukan. Sampel kayu *tisuk* berasal dari hutan rakyat di Desa Sukamulih, Kecamatan Sariwangi, Kabupaten Tasikmalaya. Perlakuan yang diterapkan adalah tebal kayu (2,5 cm, 5 cm, 7,5 cm dan 10 cm), *immersion time* (3 hari, 5 hari dan 7 hari), dan konsentrasi bahan pengawet (5 % dan 10 %). Parameter yang diamati adalah retensi dan penetrasi bahan pengawet. Hasil penelitian menunjukkan bahwa retensi bahan pengawet berbeda nyata pada perlakuan tebal kayu tetapi tidak berbeda nyata pada kedua perlakuan lainnya. Sementara, tingkat penetrasi bahan pengawet tidak berbeda nyata pada semua perlakuan. Retensi dan penetrasi bahan pengawet menunjukkan nilai yang memenuhi persyaratan SNI. Berdasarkan analisis ini, pengawetan kayu *tisuk* yang disarankan menggunakan BAE adalah konsentrasi bahan pengawet 5 % dengan waktu perendaman 3 hari pada ketebalan 2,5 cm, 5 cm, 7,5 cm dan 10 cm.

Kata kunci : Retensi, penetrasi, perendaman dingin, *tisuk*, pengawetan kayu