

PENGARUH KONDISI DAUN DAN BAHAN FIKSASI TERHADAP KUALITAS *ECOPRINT* DAUN JATI BIOTROP

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INTISARI

Daun jati kondisi segar dan kering menghasilkan motif *ecoprint* yang berbeda. Daun jati kering dapat disimpan lebih lama dibandingkan daun segar sehingga dapat menjadi alternatif untuk memenuhi kebutuhan bahan baku *ecoprint*. Hasil *ecoprint* yang cenderung mudah luntur memerlukan proses fiksasi untuk meningkatkan kualitas ketahanan luntur. Selain itu, penggunaan bahan fiksasi dapat memengaruhi arah warna *ecoprint*. Tujuan dari penelitian ini yaitu untuk mengetahui kadar air, kandungan pigmen warna, dan total tanin pada daun jati segar dan kering serta pH larutan fiksasi. Kemudian mengetahui karakteristik dan warna *ecoprint* berdasarkan kondisi daun jati dengan beberapa fiksasi serta pengaruh kondisi daun jati dan bahan fiksasi terhadap ketahanan luntur warna *ecoprint* yang dihasilkan.

Penelitian ini menggunakan dua faktor, yaitu kondisi daun jati (daun segar dan daun kering) dan bahan fiksasi (tunjung, kapur, dan cuka). Kedua faktor tersebut menghasilkan 6 kombinasi sampel *ecoprint* dengan 3 kali pengulangan. Pengujian yang dilakukan meliputi kadar air, kandungan pigmen warna, total tanin, dan pH larutan fiksasi. Selanjutnya dilakukan pembuatan *ecoprint* menggunakan teknik *steam* pada kain uji untuk pengujian karakteristik dan arah warna, ketahanan luntur terhadap gosokan, pencucian 40°C, dan keringat asam. Hasil uji kadar air dan total tanin dianalisis dengan Uji T Independen, kemudian pH larutan fiksasi dianalisis dengan *one way anova* serta kandungan pigmen warna dan ketahanan luntur warna dianalisis secara deskriptif.

Hasil penelitian menunjukkan bahwa kondisi daun jati segar dan kering dengan fiksasi tunjung, kapur, dan cuka memberikan pengaruh terhadap karakteristik dan warna *ecoprint*. Daun jati segar dan kering mengandung pigmen warna flavonoid dan tanin dengan total tanin daun kering lebih tinggi dibandingkan daun segar. Hasil pengujian arah warna menggunakan NaDIn 2021 menunjukkan terdapat tiga kelompok warna yaitu *vintage violet*, *taupe grey*, dan *reobuck*. Secara umum, kondisi daun dan bahan fiksasi tidak memengaruhi ketahanan luntur warna kain *ecoprint* terhadap gosokan, pencucian 40°C, dan keringat asam. Hasil pengujian cenderung baik dengan rata-rata skala *staining scale* sebesar 4-5 (Baik).

Kata kunci: *Ecoprint*, daun jati, kondisi daun, bahan fiksasi

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EFFECT OF LEAF CONDITION AND FIXATION MATERIAL ON QUALITY OF BIOTROPE TEAK LEAF *ECOPRINTS*

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ABSTRACT

Fresh and dried teak leaves produce different ecoprint patterns. Dried teak leaves can be stored longer than fresh leaves, making them an alternative source for ecoprint materials. Ecoprints that tend to fade easily require a fixation process to enhance colorfastness quality. Additionally, the choice of fixative can influence the color direction of ecoprints. The objective of this research is to determine the moisture content, pigment content, and total tannin in fresh and dried teak leaves, as well as the pH of the fixation solution. Furthermore, the aim is to understand the characteristics and colors of ecoprints based on the condition of teak leaves with various fixatives, and to assess the impact of teak leaf condition and fixatives on the colorfastness of the resulting ecoprints.

This study employed two factors: teak leaf conditions (fresh leaves and dried leaves) and fixation materials (ferro sulfate, lime, and vinegar). These factors resulted in 6 combinations of ecoprint samples with 3 replications each. Tests conducted included moisture content, pigment content, total tannin, and pH of the fixation solution. Subsequently, ecoprints were created using steam technique on test fabrics for testing characteristics and color direction, colorfastness against rubbing, washing at 40°C, and acidic sweat. The results of moisture content and total tannin tests were analyzed using Independent T-test, while the pH of fixation solution was analyzed using one-way ANOVA, and pigment content and colorfastness were analyzed descriptively.

The results showed that both fresh and dried teak leaves with fixations such as ferro sulfate, lime, and vinegar influenced the characteristics and colors of ecoprints. Fresh and dried teak leaves contain flavonoid and tannin pigments, with higher total tannin content in dried leaves compared to fresh ones. Color direction tests using NaDI₂₀₂₁ showed three color groups: vintage violet, taupe grey, and reobuck. Overall, leaf condition and fixation material did not affect the colorfastness test results of ecoprint fabrics against rubbing, washing at 40°C, and acidic sweat. The test results were generally good with an average staining scale of 4-5 (Good).

Key word: *Ecoprint, jati leave, leave condition, fixation material*

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