

# **RESIK: Sintesis Kesenam Lingkungan Serat Bambu Betung (*Dendrocalamus asper*) dari Biofermentasi Putri Malu (*Mimosa pudica*) sebagai Antimikroba Alami**

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## **ABSTRAK**

Bakteri patogen seperti *Staphylococcus aureus* dan *Escherichia coli* kerap ditemukan pada benda-benda yang mengalami kontak langsung dengan kulit sehingga menyebabkan berbagai infeksi dermatologis. Kesenam konvensional kurang efektif dalam membersihkan bakteri tersebut dikarenakan bakteri dapat bertahan hidup di dalam serat kain. Penelitian ini bertujuan untuk melakukan pengembangan produk kesenam antibakteri bernama RESIK dengan bahan dasar serat bambu betung (*Dendrocalamus asper*) yang diberi perlakuan dengan cairan biofermentasi putri malu (*Mimosa pudica*). Penelitian mengadaptasi model ADDIE (*analyze, design, development, implementation, and evaluation*) dengan metode *true experiment*. Data dianalisis secara deskriptif, kualitatif, dan kuantitatif. Produksi RESIK melibatkan ekstraksi, analisis skrining fitokimia, pembuatan biofermentasi daun putri malu, penyusunan serat bambu dan kain perca menjadi kesenam, perendaman dengan biofermentasi selama 30 menit, pengeringan selama 10 jam, uji validasi ahli dan uji organoleptik. Hasil skrining fitokimia bambu betung mengandung alkaloid, tanin dan saponin, sedangkan daun putri malu kaya alkaloid, tanin, saponin dan flavonoid, yang mendukung potensi produk RESIK dalam mereduksi bakteri *S. aureus* dan *E. coli* sesuai hasil uji validasi ahli dengan persentase kelayakan 87,75%. Uji organoleptik skala kecil menunjukkan skor rata-rata 88,76% yang tergolong dalam kategori sangat baik. Kesenam antibakteri RESIK dapat disimpulkan berpotensi mereduksi proliferasi bakteri dan layak digunakan oleh masyarakat.

Kata kunci : *Kesenam, Antibakteri, Bambu, Putri Malu, Biofermentasi*

## **ABSTRACT**

Pathogenic bacteria such as *Staphylococcus aureus* and *Escherichia coli* are often found on objects that come into direct contact with the skin, causing various dermatological infections. Conventional mats are less effective in cleaning these bacteria because bacteria can survive in the fabric fibres. This research aims to develop an antibacterial mat product called RESIK using betung bamboo fibre (*Dendrocalamus asper*) treated with biofermentation liquid of putri malu (*Mimosa pudica*). The research adapted the ADDIE model (*analyse, design, development, implementation, and evaluation*) with the *true experiment* method. Data were analysed descriptively, qualitatively, and quantitatively. RESIK production involved extraction, phytochemical screening analysis, making biofermented putri malu leaves, preparing bamboo fibre and patchwork into mats, soaking with biofermentation for 30 minutes, drying for 10 hours, expert validation test and organoleptic test. The results of phytochemical screening of betung bamboo contain alkaloids, tannins and saponins, while putri malu leaves are rich in alkaloids, tannins, saponins and flavonoids, which support the potential of RESIK products in reducing *S. aureus* and *E. coli* bacteria according to the results of the expert validation test with a feasibility percentage of 87.75%. The small-scale organoleptic test showed an average score of 88.76% which was classified as excellent. The RESIK antibacterial mat can be concluded to have the potential to reduce bacterial proliferation and is suitable for use by the community.

Keywords: *Doormat, Antibacterial, Bamboo, Shame Princess, Biofermentation*