FORMULASI SEDIAAN DEODORAN *SPRAY* DAN UJI AKTIVITAS ANTIMIKROBA DARI FERMENTASI KOMBUCHA PUCUK MERAH (*Syzygium myrtifolium* Walp.)

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ABSTRAK

Pucuk merah (*syzygium myrtifolium* Walp.) mengandung senyawa aktif seperti flavonoid, tanin, alkaloid, dan saponin yang berpotensi sebagai agen antimikroba alami. Penelitian ini bertujuan untuk mengembangkan formulasi sediaan deodoran *spray* berbasis fermentasi pucuk merah menggunakan kultur kombucha (*symbiotic culture of bacteria and yeast*) selama 12 hari. Aktivitas antimikroba diuji terhadap *Escherichia coli, Staphylococcus aureus,* dan *Candida albicans*, dengan metode spektrofotometri UV-Vis pada panjang gelombang 600 nm (bakteri) dan 580 nm (fungi). Hasil menunjukkan bahwa pada fermentasi pucuk merah dengan konsentrasi 100%, memberikan daya hambat tertinggi dengan rata-rata inhibisi sebesar 42,36% terhadap *E. Coli*, 38,51% terhadap *S. Aureus* dan 35,66% terhadap *C. Albicans*. Formulasi deodoran *spray* dikembangkan dengan kombinasi eksipien seperti propilenglikol, gliserin, etanol 70%, metil paraben, dan pewangi. Evaluasi sediaan meliputi uji organoleptik, viskositas, pH dan uji iritasi kulit. Dari tiga formula yang diuji, formula F3 menunjukkan hasil paling optimal dalam menghambat pertumbuhan mikroba serta memiliki stabilitas fisik yang baik dan tidak menyebabkan iritasi. Dengan demikian, fermentasi pucuk merah menggunakan kombucha berpotensi sebagai bahan aktif alami dalam pengembangan produk deodoran *spray* yang aman dan efektif.

Kata kunci : Antimikroba, deodoran *spray*, fermentasi kombucha, *Syzygium myrtifolium.*

FORMULATION OF DEODORANT SPRAY AND ANTIMICROBIAL ACTIVITY TEST OF PUCUK MERAH KOMBUCHA FERMENTATION

(*Syzygium myrtifolium* Walp.)

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ABSTRAC

Pucuk merah (Syzygium myrtifolium Walp.) contain active compounds such as flavonoids, tannins, alkaloids, and saponins, which are known to possess potential as natural antimicrobial agents. This study aimed to evaluate the antimicrobial activity and formulate a deodorant spray using red shoot leaf fermentation with kombucha culture (Symbiotic culture of bacteria and yeast) for 12 days. The antimicrobial activity was tested against body odor-causing microorganisms, namely Escherichia coli, Staphylococcus aureus, and Candida albicans, using the UV-Vis spectrophotometric method at wavelengths of 600 nm (bacteria) and 580 nm (fungi). The fermentation results at 100% concentration showed the highest inhibitory activity, with average inhibition rates of 42.36% against E. coli, 38.51% against S. aureus, and 35.66% against C. albicans. The deodorant spray formulation was developed using a combination of excipients such as propylene glycol, glycerin, 70% ethanol, methylparaben, and fragrance. Evaluation of the preparation included organoleptic tests, viscosity, pH, and skin irritation tests. Among the tested formulations, Formula F3 demonstrated the most optimal antimicrobial activity, good physical stability, and no signs of irritation. Therefore, red shoot leaf fermentation using kombucha shows potential as a natural active ingredient in the development of a safe and effective deodorant spray product.

***Keywords**: Antimicrobial, deodorant spray, kombucha, Syzygium myrtifolium.*