

Antimicrobial activity of organic scrub soap with coffee and coffee by-products as exfoliate

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ABSTRACT

Coffee is known to have biological activity as an antioxidant, antifungal and antibacterial, although it has not been widely used as raw material of medicine product. The purpose of this study is to synthesize antimicrobial soap with coffee and coffee by-products as exfoliates.

The synthesis of coffee soap is carried out by the saponification reaction between NaOH and vegetable oil. Vegetable oils used are coconut oil, palm oil and sunflower seed oil. After the trace condition is achieved, coffee is added as an exfoliate or scrub. coffee variants used are coffee beans, coffee grounds and coffee skins that have been prepared as coarse powder. After curing for 4 weeks, a soap quality test includes water content, insoluble ingredients in ethanol and free alkali levels were done.

Antibacterial and antifungal tests were carried out by the Kirby-Bauer method. The bacteria used are *Staphylococcus aureus* and *staphylococcus epidermidis*. The fungus used is *trichophyton mentagrophyte*.

The results showed that all soap variants met SNI2016 standards. The results of antimicrobial activity tests showed that all soap variants were categorized as susceptible to *T.menta*, but categorized as resistant to bacteria. These findings indicate that coffee and coffee byproducts have the potential to be used as antifungal agents in organic scrub soaps

Kata Kunci: *antimicrobial, coffee, coffee by product*