

**QUALITY AND HEDONIC EVALUATION OF LIQUID SOAP MADE  
FROM SPENT COFFEE GROUNDS**

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**ABSTRACT**

*The increasing number of coffee shops in Indonesia has led to a significant rise in spent coffee grounds (SCG) waste, most of which is not yet being recycled into high-value products. Only approximately 10% of the daily discarded SCG is successfully recycled, while the remainder ends up in landfills. Spent coffee grounds contain phenolic compounds with antimicrobial properties and antioxidants that can help inhibit and prevent free radicals that damage skin cells. Therefore, this study utilized SCG as a raw material for the production of liquid soap. The research was conducted from April to May 2025 at the Agricultural Product Processing Laboratory of the State Polytechnic of Jember. The produced liquid soap was evaluated through quality tests (pH and foam height) and a hedonic test involving 60 untrained panelists. The data were analyzed using a non-factorial Completely Randomized Design (CRD) consisting of four treatments: P0 = control, P1 = 10 grams, P2 = 20 grams, and P3 = 30 grams of SCG. The highest pH value was observed in the control treatment (P0) at 11.432, which exceeds the maximum allowable pH value according to the Indonesian National Standard (SNI), set at 10. The most compliant treatment with the SNI pH standard was P3, with a pH of 9.658. Foam height results were within the SNI standard range of 13–220 mm, with the highest foam observed in P3 (96 mm) and the lowest in P1 (79.2 mm). In terms of physical characteristics, all treatments resulted in a liquid form. Color observations revealed that P0 was yellowish-clear, P1 was brownish, and both P2 and P3 were dark brownish-black. For texture, P0 was smooth and non-scrubbing, P1 and P2 were scrubbing, while P3 had a very scrubbing texture. The hedonic test analysis showed that hypothesis H1 was accepted for several parameters. The most preferred color was observed in P3 with a score of 4,933b, the most preferred aroma was in P2 with a score of 4,250b, the most favored texture was in P3 with a score of 4,717b, and overall acceptance was highest in P3 with a score of 4,483b. These results indicate that spent coffee grounds had a significant effect on the quality of liquid soap produced.*

**Keywords:** Hedonic test, Liquid soap, Quality test, Spent Coffee Ground,