

ABSTRACT

CHARACTERISTICS AND PRODUCTION COSTS OF TRANSPARENT SOLID SOAP WITH THE ADDITION OF ECO-ENZYME FROM FRUIT SKIN

By

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Transparent solid soap was a solid cleaning product characterized by its clarity, produced through the saponification process between oils and alkalis, with additional ingredients added to enhance its quality. This product was developed by utilizing eco-enzyme solutions derived from the fermentation of fruit peels as an effort to convert household organic waste into environmentally friendly products. The research was conducted using a Completely Randomized Block Design (CRBD) non-factorial with nine levels of eco-enzyme concentration (0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%) and three replications. The parameters observed included physical properties (color, aroma, texture, transparency), chemical properties (pH, moisture content, foam stability, free fatty acids), as well as production cost analysis using the full costing method. The results showed that transparent solid soap with eco-enzyme met most of the quality standards of SNI 3532:2016. The Cost of Production (HPP) obtained was Rp2,881 per piece, with a selling price of Rp6,000, generating a net profit of Rp5,050,640 per month from 1,620 pieces of soap. The best treatment was shown by the eco-enzyme concentration of 10% (P3), which had a low water content (3.964%), a safe pH (10.273), very high foam stability (98.771%), the highest sensory value, and a free fatty acid content of only 0.87%, far below the maximum threshold.

Key words: Transparent solid soap, eco-enzyme, fruit peel, soap characteristics, cost of production.

ABSTRAK

KARAKTERISTIK DAN HARGA POKOK PRODUKSI SABUN PADAT TRANSPARAN DENGAN PENAMBAHAN *ECO-ENZYME* KULIT BUAH

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Sabun padat transparan merupakan produk pembersih berbentuk padat dengan karakteristik bening, yang dibuat melalui proses penyabunan antara minyak dan alkali serta ditambahkan bahan lain untuk meningkatkan kualitasnya. Produk ini dikembangkan dengan memanfaatkan larutan *eco-enzyme* dari fermentasi kulit buah-buahan sebagai upaya pemanfaatan limbah organik rumah tangga menjadi produk ramah lingkungan. Penelitian dilakukan menggunakan Rancangan Acak Kelompok Lengkap (RAKL) non-faktorial dengan sembilan taraf konsentrasi *eco-enzyme* (0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%) dan tiga kali ulangan. Parameter yang diamati meliputi sifat fisik (warna, aroma, tekstur, transparansi), sifat kimia (pH, kadar air, stabilitas busa, asam lemak bebas), serta analisis biaya produksi dengan metode full costing. Hasil menunjukkan bahwa sabun padat transparan dengan *eco-enzyme* memenuhi sebagian besar standar mutu SNI 3532:2016. Harga Pokok Produksi (HPP) yang diperoleh adalah Rp2.881 per pcs, dengan harga jual Rp6.000, menghasilkan laba bersih sebesar Rp5.050.640 per bulan dari 1.620 pcs sabun. Perlakuan terbaik ditunjukkan oleh konsentrasi *eco-enzyme* 10% (P3), yang memiliki kadar air rendah (3,964%), pH aman (10,273), stabilitas busa sangat tinggi (98,771%), nilai sensori tertinggi, dan kadar asam lemak bebas hanya 0,87%, jauh di bawah ambang batas maksimum.

Kata Kunci: Sabun padat transparan, *eco-enzyme*, kulit buah, karakteristik sabun, Harga Pokok Produksi (HPP).