

ABSTRAK

PENGARUH KONSENTRASI *ECO ENZYME* KULIT LEMON (*Citrus limon*) DAN PENAMBAHAN *FOAM BOOSTER* (*Cocamide dea*) TERHADAP KUALITAS SABUN MANDI CAIR

OLEH

INTAN WULANDARI

Eco enzyme dapat digunakan untuk menggantikan bahan kimia seperti *triclosan* dalam sabun mandi cair sebagai antibakteri yang aman dan ramah lingkungan. *Eco enzyme* yang terbuat dari kulit lemon (*Citrus limon*) akan menghasilkan aroma khas lemon yang dapat dimanfaatkan sebagai *fragrance* alami. Penambahan *foam booster* (*Cocamide dea*) dapat menstabilkan busa yang tidak stabil pada sabun mandi cair karena pengaruh asam dari *eco enzyme* kulit lemon (*Citrus limon*). Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi *eco enzyme* dari kulit lemon (*Citrus limon*) dan penambahan *foam booster* (*Cocamide dea*) terhadap kualitas sabun mandi cair berdasarkan sifat fisikokimia sabun mandi cair yang dapat berinteraksi dan terdapat perlakuan yang sesuai dengan SNI 06-4085-1996. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor, yaitu konsentrasi *eco enzyme* (0%, 10%, 20%, 30%) sebagai faktor pertama dan *foam booster* (0%, 3%, 6%, 9%) sebagai faktor kedua, kemudian akan menghasilkan 16 kombinasi perlakuan dengan dua ulangan. Parameter yang diamati meliputi pH, bobot jenis, stabilitas busa, angka lempeng total (ALT), dan uji sensori (warna, aroma, tekstur, dan busa). Selanjutnya data dianalisis menggunakan uji *barlett*, *anova*, uji *tuckey* dan uji Beda Nyata Jujur (BNJ) pada taraf 5%. Hasil menunjukkan bahwa kombinasi perlakuan E3F3 (30% *eco enzyme*, 9% *foam booster*) menjadi perlakuan terbaik karena memiliki banyak parameter yang sesuai dengan SNI 06-4085-1996. sifat fisikokimia yang dihasilkan meliputi pH 6,65, bobot jenis 1,02, stabilitas busa 88%, warna (L^* (*lightness*) 10,37, b^* 2,28), angka lempeng total (ALT) 4,5200 dan sensori warna 5,00 (sangat kuning pekat), aroma 2,60 (kurang khas lemon), busa 3,80 (sedikit berbusa) dan tekstur 4,80 (kental).

Kata kunci: *eco enzyme*, kulit lemon, *cocamide dea*, sabun mandi cair, sifat fisikokimia, angka lempeng total, sifat sensori

ABSTRACT

THE EFFECT OF LEMON PEEL ECO ENZYME CONCENTRATION (*Citrus limon*) AND THE ADDITION OF FOAM BOOSTER (*Cocamide dea*) ON THE QUALITY OF LIQUID SHOWER SOAP

Eco enzyme can be used to replace chemicals such as triclosan in liquid bath soap as a safe and environmentally friendly antibacterial. Eco enzyme made from lemon peel (*Citrus limon*) will produce a distinctive lemon aroma that can be used as a natural fragrance. The addition of foam booster (*Cocamide dea*) can stabilize unstable foam in liquid bath soap due to the acidic effect of lemon peel eco enzyme (*Citrus limon*). This study aims to determine the effect of eco enzyme concentration from lemon peel (*Citrus limon*) and the addition of foam booster (*Cocamide dea*) on the quality of liquid bath soap based on the physicochemical properties of liquid bath soap that can interact and there is a treatment in accordance with SNI 06-4085-1996. The study used a Complete Randomized Block Design (RAKL) with two factors, namely eco enzyme concentration (0%, 10%, 20%, 30%) as the first factor and foam booster (0%, 3%, 6%, 9%) as the second factor, then it will produce 16 treatment combinations with two replications. The parameters observed included pH, specific gravity, foam stability, total plate count (TPC), and sensory tests (color, aroma, texture, and foam). Furthermore, the data were analyzed using the Barlett test, ANOVA, Tuckey test and Honestly Significant Difference (HSD) test at the 5% level. The results showed that the combination of E3F3 treatments (30% eco enzyme, 9% foam booster) was the best treatment because it had many parameters in accordance with SNI 06-4085-1996. The resulting physicochemical properties included pH 6.65, specific gravity 1.02, foam stability 88%, color (L* (lightness) 10.37, b* 2.28), total plate count (TPC) 4.5200 and color sensory 5.00 (very dark yellow), aroma 2.60 (less typical of lemon), foam 3.80 (slightly foamy) and texture 4.80 (thick).

Keywords: eco enzyme, lemon peel, cocamide dea, liquid soap, physicochemical properties, total plate count, sensory properties