

UJI STABILITAS FISIK DAN KIMIA FORMULASI *BALM STICK MOISTURIZER* EKSTRAK DAUN KELOR DENGAN VARIASI KONSENTRASI *CANDELILLA WAX* SEBAGAI BASIS

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ABSTRAK

Daun kelor (*Moringa oleifera* L.) memiliki potensi sebagai pelembab kulit karena memiliki aktivitas antioksidan tinggi berasal dari senyawa fenolik daun kelor. *Balm stick moisturizer* merupakan kosmetik yang berguna dalam melembabkan kulit. Penggunaan *wax* sebagai basis dapat menentukan stabilitas sediaan *balm stick moisturizer*. Penelitian ini bertujuan untuk mengetahui stabilitas fisik dan kimia yang paling optimal pada formula *balm stick moisturizer* serta mengetahui pengaruh variasi konsentrasi *candelilla wax* terhadap sediaan. Metode yang digunakan adalah eksperimental laboratorium dengan melakukan pengujian stabilitas fisik dan kimia selama 3 bulan pada 5 jenis formulasi dengan memvariasikan konsentrasi *candelilla wax*, yaitu 8% (kontrol negatif), 8%, 12%, 16%, 20%. Hasil penelitian menunjukkan bahwa formula 3 dengan konsentrasi *candelilla wax* 12% memiliki stabilitas fisik dan kimia sediaan yang paling optimal setelah 3 bulan. Formula 3 menunjukkan sediaan berwarna coklat, berbau khas ekstrak, bertekstur padat, sediaan yang homogen, pH 5,21, daya sebar 3,4 cm, daya lekat 6.62 detik, titik leleh 55.5°C, dan memiliki kadar total fenol sebesar 5.40 mg GAE/g. Hasil uji analisis statistik pada seluruh formula menunjukkan nilai signifikansi >0,05, menandakan bahwa seluruh sediaan stabil, baik antar formula maupun terhadap variasi konsentrasi *candelilla wax* pada uji stabilitas.

Kata Kunci: *Balm Stick Moisturizer*, *Candelilla wax*, Fenol, *Moringa oleifera* L, Uji Stabilitas

PHYSICAL AND CHEMICAL STABILITY TEST OF MORINGA LEAF EXTRACT MORISMING BALM STICK MOISTURIZER FORMULATION WITH VARIATIONS OF CANDELILLA WAX CONCENTRATION AS BASE

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ABSTRACT

Moringa leaves (*Moringa oleifera* L.) have potential as a skin moisturizer due to their high antioxidant activity, which is derived from the phenolic compounds in the leaves. Balm stick moisturizer is a cosmetic product used to hydrate the skin, and the use of wax as a base material can influence the stability of the balm stick formulation. This study aimed to determine the optimal physical and chemical stability of the balm stick moisturizer formulation and to assess the effect of varying concentrations of candelilla wax on the preparation. The method used was an experimental laboratory approach, involving physical and chemical stability testing over a period of 35 days on five different formulations with varying candelilla wax concentrations: 8% (negative control), 8%, 12%, 16%, and 20%. The results showed that Formula 3, with a candelilla wax concentration of 12%, demonstrated the most optimal physical and chemical stability after 3 months. Formula 3 exhibited a brown color, a characteristic extract scent, a solid texture, homogenous consistency, pH of 5.21, spreadability of 3.4 cm, adhesiveness of 6.62 seconds, a melting point of 55.5°C, and a total phenolic content of 5.40 mg GAE/g. Statistical analysis of all formulations showed significance values greater than 0.05, indicating that all formulations were stable, both among the different formulas and across the variations in candelilla wax concentration during stability testing.

Keywords: Balm Stick Moisturizer, Candelilla wax, *Moringa oleifera* L, Phenol, Stability Test