

Frankincense Formulation: A Field-Based Study in Skincare Performance and Heritage-Driven Innovation

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ABSTRACT

This study explores the therapeutic performance of *Boswellia sacra* (Omani frankincense) in modern dermo-cosmetic formulations through a comprehensive approach that integrates formulation science, botanical research, and extended user-based testing. Core ingredients include 0.25% to 1.5% essential oil, 5% to 45% hydrosol, resin infusion, resin residue, frankincense-derived glycerides, and the integration of key actives such as AKBA and α -pinene. Botanical by-products such as leaves, nectar, and petals are also explored for their potential to enhance formulations. Formulas were designed within dermal safety guidelines and tested over 1–3 month periods by users experiencing acne, eczema, sensitivity, pigmentation, and age-related wrinkles. Results indicated significant reductions in inflammatory symptoms, with up to 80% wrinkle reduction in women aged 35–43, as well as sustained control of acne and eczema without recurrence. Stability was verified through 12-week stress testing protocols. Products were subjected to third-party microbiological analysis. The study was conducted through the research platform established by Lubaniah, an Omani-founded skincare initiative focused on science-driven formulation using frankincense. This work proposes a real-world framework for ethical, sustainable, and efficacious frankincense-based skincare rooted in local biodiversity and aligned with emerging cosmetic science.

