

INTISARI

Penelitian mengenai Optimasi Komposisi Polietilen Glikol 400 dan Gliserol sebagai *Humectant* dalam Formula Krim Anti *Hair Loss* Ekstrak Saw Palmetto (*Serenoa repens*): Aplikasi Desain Faktorial telah dilakukan. Penelitian ini bertujuan untuk: mengetahui manakah di antara PEG 400, gliserol dan interaksinya yang dominan dalam menentukan sifat fisik dan stabilitas krim, mengetahui komposisi optimum dari *humectant* yang dapat menghasilkan sifat fisik krim yang dikehendaki, serta mengetahui keamanan penggunaan topikal krim anti *hair loss* ekstrak Saw Palmetto terhadap kelinci albino.

Penelitian ini merupakan penelitian eksperimental murni, dengan menggunakan metode desain faktorial. Optimasi dilakukan dengan melihat parameter sifat fisik krim yang meliputi daya sebar dan viskositas segera setelah pembuatan, dan stabilitas krim yakni perubahan viskositas setelah penyimpanan satu bulan.

Hasil penelitian ini menunjukkan bahwa gliserol dominan dalam mempengaruhi daya sebar dan viskositas segera setelah pembuatan. Perubahan viskositas dipengaruhi secara dominan oleh PEG 400. Sementara uji iritasi primer menggunakan kelinci albino menunjukkan bahwa krim anti *hair loss* ekstrak Saw Palmetto bersifat kurang merangsang timbulnya iritasi. Pada *contour plot super imposed* dapat ditemukan area komposisi optimum *humectant* pada level penelitian yang menghasilkan karakter fisik krim yang dikehendaki. Area tersebut diprediksi sebagai formula optimum krim anti *hair loss* ekstrak Saw Palmetto terbatas pada jumlah bahan yang diteliti.

Kata kunci: Ekstrak Saw Palmetto, *androgenetic alopecia*, PEG 400, gliserol, desain faktorial

ABSTRACT

The research about Optimization of Polyethylene Glycol 400 and Glycerol Composition as Humectants in Anti Hair Loss Cream Formula of Saw Palmetto (*Serenoa repens*) Extract: Factorial Design Application had been done. The aims of this research was to determine which of the factors: PEG 400, glycerol, and their interaction which predominantly affects the physical properties dan physical stability, to observe the humectants' optimum composition which results wanted physical properties, and also to determine the safety of using anti hair loss cream of extract Saw Palmetto topically in albino rabbit.

This research is a pure experimental research, using the factorial design method. The optimization was done by measuring cream's physical properties including spreadability, cream viscosity after preparation, and cream's physical stability which is the viscosity change after 1 month of storage.

The results of this research exhibited that glycerol predominantly affected spreadability and cream viscosity after preparation. Viscosity change was affected predominantly by PEG 400. In the other hand, the primary irritation test using albino rabbit showed that anti hair loss cream of extract Saw Palmetto had non irritating effect. At the contour plot super imposed graphic, there was a humectants' optimum composition area at the research level, which showed wanted physical properties. That area was estimated as the optimum formula of anti hair loss cream of Saw Palmetto extract.

Keyword: Saw Palmetto extract, androgenetic alopecia, PEG 400, gliserol, factorial design