

## INTISARI

Penelitian tentang optimasi proses pencampuran ini bertujuan untuk mengetahui dominansi antara suhu pencampuran, kecepatan putar, dan interaksinya dalam mempengaruhi sifat fisik dan stabilitas krim, serta mendapatkan area proses pencampuran optimum yang menghasilkan krim dengan sifat fisis dan stabilitas yang baik.

Penelitian ini merupakan rancangan eksperimental dengan aplikasi metode desain faktorial dua faktor yaitu suhu pencampuran – kecepatan putar dan dua level. Sifat fisis krim yang diuji adalah viskositas dan daya sebar, stabilitas krim dengan memakai pergeseran viskositas, ukuran droplet, perubahan ukuran droplet, dan persen pemisahan krim. Teknik analisis yang digunakan adalah *Yate's treatment* dengan taraf kepercayaan 95%.

Diperoleh hasil bahwa suhu pencampuran, kecepatan putar, dan interaksinya mempengaruhi sifat fisis krim anti *hair loss*. Kecepatan putar *mixer* dominan mempengaruhi respon daya sebar krim anti *hair loss*, sedangkan suhu pencampuran dominan dalam menentukan respon viskositas krim anti *hair loss*. Berdasarkan *contour plot superimposed* diperoleh area optimum untuk daya sebar, viskositas, dan pergeseran viskositas yang diperkirakan sebagai proses pencampuran optimum pada level yang diteliti.

Kata kunci: optimasi proses pencampuran, krim anti *hair loss*, Saw Palmetto, desain faktorial

## ABSTRACT

The aim of mixing process optimization were to determine the dominant factor among mixing temperature, mixing rate, and its interaction on the physical properties and physical stabilities of cream and to determine the optimum mixing process area of mixing process and mixing rate which has good physical properties and physical stabilities of cream.

This study was experimental research with two factors which are mixing temperature-mixing rate and two levels factorial design. The mixing process were optimized on their physical properties such as spreadability and viscosity, and their physical stabilities such as viscosity shift over one month storage, globule size, globule size shift over one month storage, and the degree of coalescence over one month storage. The data were analyzed statistically using Yate's treatment with 95% level of confidence.

The result show that the mixing temperature, mixing rate, and its interaction influence cream's physical properties. Mixing rate was dominant on determining spreadability, while mixing temperature was dominant on determining viscosity. The superimposed contour plot showed the optimum area of spreadability, viscosity, and viscosity shift. The area was estimated as optimum mixing process of anti hair loss cream on the level studied.

Keywords : mixing process optimization, anti hair loss cream, Saw Palmetto, factorial design