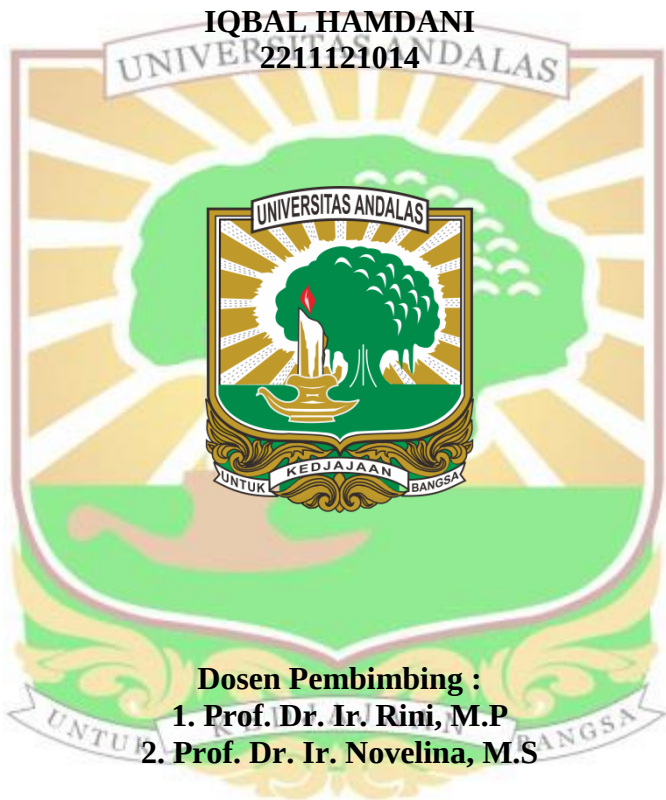


**PENGARUH PENAMBAHAN SPAN 80 DAN
TWEEN 80 TERHADAP KARAKTERISTIK FISIK
HAIR TONIC BERBAHAN AKTIF MINYAK
ROSEMARY**

IQBAL HAMDANI

2211121014



Dosen Pembimbing :

- 1. Prof. Dr. Ir. Rini, M.P**
- 2. Prof. Dr. Ir. Novelina, M.S**

**FAKULTAS TEKNOLOGI PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2026**

**Pengaruh Penambahan Span 80 dan Tween 80 terhadap
Karakteristik Fisik *Hair tonic* Berbahan Aktif Minyak
Rosemary**

Iqbal Hamdani, Rini, Novelina

ABSTRAK

Rambut memiliki peran penting dalam aspek fisiologis dan estetika sehingga diperlukan produk perawatan yang mampu menjaga kesehatan kulit kepala dan mendukung pertumbuhan rambut. *Hair tonic* berbahan aktif minyak rosemary berpotensi digunakan karena kandungan senyawa bioaktifnya, namun stabilitas fisik sediaan masih menjadi tantangan sehingga diperlukan penambahan emulgator. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi kombinasi emulgator Span 80 dan Tween 80 (rasio 1:2) terhadap karakteristik fisik *hair tonic* berbahan aktif minyak rosemary serta menentukan konsentrasi emulgator yang menghasilkan stabilitas fisik optimal. Penelitian menggunakan metode eksperimen dengan Rancangan Acak Lengkap (RAL) yang terdiri atas 5 perlakuan konsentrasi emulgator (0%, 4%, 6%, 8%, dan 10%) dan 3 ulangan. Data dianalisis menggunakan *Analysis of Variance* (ANOVA) dan dilanjutkan dengan *Duncan's New Multiple Range Test* (DNMRT) taraf 5%. Parameter yang diamati meliputi pH, viskositas, homogenitas, stabilitas sediaan, organoleptik, iritasi, mikrobiologi, serta ukuran droplet. Hasil penelitian menunjukkan bahwa peningkatan konsentrasi Span 80 dan Tween 80 berpengaruh terhadap pH, viskositas, homogenitas, dan stabilitas sediaan, tetapi tidak memberikan pengaruh nyata terhadap penerimaan organoleptik. Konsentrasi emulgator 10% menghasilkan *hair tonic* dengan stabilitas fisik terbaik, ditandai tidak terjadi pemisahan fase, mampu mempertahankan homogenitas selama penyimpanan dan cycling test, memenuhi persyaratan mutu, serta memperoleh tingkat penerimaan panelis tertinggi.

Kata kunci: *hair tonic*, minyak rosemary, Span 80, Tween 80, stabilitas fisik

Effect of the Addition of Span 80 and Tween 80 on the Physical Characteristics of a Hair Tonic Containing Rosemary Oil as an Active Ingredient

Iqbal Hamdani, Rini, Novelina

ABSTRACT

Hair plays an important role in physiological and aesthetic aspects, so it is necessary to have a care product that can maintain scalp health and support hair growth. Hair tonic with rosemary oil as the active ingredient has the potential to be used because of its bioactive compounds, but the physical stability of the preparation remains a challenge, so the addition of an emulsifier is needed. This study aims to determine the effect of variations in the concentration of the combination of Span 80 and Tween 80 emulsifiers (ratio 1:2) on the physical characteristics of hair tonic with rosemary oil as the active ingredient and to determine the emulsifier concentration that produces optimal physical stability. The study used an experimental method with a Completely Randomized Design (CRD) consisting of 5 emulsifier concentration treatments (0%, 4%, 6%, 8%, and 10%) and 3 replications. Data were analyzed using Analysis of Variance (ANOVA) and continued with Duncan's New Multiple Range Test (DNMRT) at a 5% level. The parameters observed included pH, viscosity, homogeneity, preparation stability, organoleptic, irritation, microbiology, and droplet size. The results showed that increasing the concentration of Span 80 and Tween 80 affected the pH, viscosity, homogeneity, and stability of the preparation, but did not significantly affect organoleptic acceptance. The emulsifier concentration of 10% produced hair tonic with the best physical stability, indicated by no phase separation, able to maintain homogeneity during storage and cycling tests, met quality requirements, and achieved the highest level of panelist acceptance.

Keywords: *hair tonic, rosemary oil, Span 80, Tween 80, physical stability*