

ABSTRACT

FREEZE THAW STABILITY TEST FOR THE PREPARATION OF BASIC LEAF EXTRACT GEL (*Ocimum americanum* L.) AND LEMONGRASS LEAVES (*Cymbopogon nardus* L.) (Studies conducted in the Academy of Pharmaceutical Surabaya)

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*Acne is an inflammatory condition on the skin caused by hormonal changes, puberty, stress, heredity, cosmetic use, and consumption of drugs. Basil leaf extract and lemongrass leaves contain phenol compounds, saponins, flavonoids, tannins, and essential oils that function as anti-bacterial. The combination of these two natural ingredients can inhibit the growth of bacteria. This study aims to determine the effect of temperature changes on the physical characteristics of gel preparations of basil leaf extract (*Ocimum americanum* L.) and lemongrass leaf extract (*Cymbopogon nardus* L.) with variations in carbopol concentration. The results showed that all gels of basil leaf extract (*Ocimum americanum* L.) and lemongrass leaves (*Cymbopogon nardus* L.) met 3 dosage stability tests, namely organoleptic test, homogeneity test, and pH test. In the third dispersal power test, the formula does not meet the requirements in all cycles. Based on the results of research on gel preparations of basil leaf extract (*Ocimum americanum* L.) and lemongrass leaves (*Cymbopogon nardus* L.) in organoleptic tests and homogeneity tests temperature changes did not affect. Based on the one-way Anova test, there is an average difference in the pH and dispersal power of the three formulas from cycle 0 – to cycle 6. Then a follow-up test was carried out using Paired samples T-Test there was a significant difference between cycle 0 and cycle 6. In other words, temperature changes in the gel preparations of basil leaf extract (*Ocimum americanum* L.) and lemongrass leaves (*Cymbopogon nardus* L.) affect pH and dispersion.*

Keywords: gel, Freeze thaw, stability test, ocimum americanum L., cymbopogon nardus L.