

## ABSTRAK

**Latar Belakang:** Kosmetik multifungsi seperti *liquid lip and cheek* semakin populer karena kepraktisannya. Penggunaan pewarna alami seperti ekstrak umbi bit (*Beta vulgaris L.*) menarik perhatian karena kandungan betasianin yang memberikan warna merah keunguan khas serta flavonoid yang berpotensi sebagai antioksidan dan agen tabir surya alami.

**Tujuan:** Penelitian ini bertujuan untuk mengetahui potensi ekstrak umbi bit dalam formulasi *liquid lip and cheek*, menilai perbedaan variasi konsentrasi terhadap sifat fisik, serta menentukan nilai *Sun Protection Factor* (SPF) dari sediaan yang dihasilkan.

**Metode:** Ekstrak diperoleh melalui metode *Ultrasonic-Assisted Extraction* (UAE) menggunakan pelarut aquadest. Ekstrak kemudian diformulasikan dalam tiga konsentrasi: 10% (F1), 20% (F2), dan 30% (F3). Evaluasi dilakukan terhadap sifat organoleptis, pH, homogenitas, daya sebar, daya lekat, stabilitas fisik, serta uji nilai SPF secara spektrofotometri UV.

**Hasil:** Seluruh formula memenuhi uji homogenitas dan menunjukkan hasil baik pada evaluasi fisik. Meskipun terjadi perubahan warna dan sedikit penurunan stabilitas pH, sediaan tetap memenuhi syarat. Nilai SPF berturut-turut adalah F1: 12,03; F2: 16,36; F3: 22,14.

**Kesimpulan:** Ekstrak umbi bit dapat diformulasikan menjadi *liquid lip and cheek* yang memiliki potensi sebagai pewarna alami sekaligus tabir surya, dengan efektivitas yang meningkat seiring konsentrasi.

**Kata kunci:** Umbi bit, *liquid lip and cheek*, formulasi, dan SPF

## ABSTRACT

**Background:** Multifunctional cosmetics such as liquid lip and cheek are gaining popularity due to their practicality. The use of natural colorants like beetroot (*Beta vulgaris* L.) extract is attracting attention because of its betacyanin content, which provides a distinctive purplish-red color, and flavonoids, which have potential as antioxidants and natural sunscreen agents.

**Objective:** This study aims to determine the potential of beetroot extract in liquid lip and cheek formulations, evaluate the effect of extract concentration on the physical properties of the preparation, and determine its Sun Protection Factor (SPF) value.

**Methods:** The extract was obtained using the Ultrasonic-Assisted Extraction (UAE) method with distilled water as the solvent. It was then formulated into three concentrations: 10% (F1), 20% (F2), and 30% (F3). Evaluations included organoleptic properties, pH, homogeneity, spreadability, adhesion, physical stability, and SPF value using UV spectrophotometry.

**Results:** All formulas passed the homogeneity test and showed good results in physical evaluations. Although there were changes in color and a slight decrease in pH stability, the preparations remained within acceptable limits. SPF values were: F1: 12.03; F2: 16.36; F3: 22.14.

**Conclusion:** Beetroot extract can be formulated into a liquid lip and cheek product with potential as a natural colorant and sunscreen agent, with increasing effectiveness at higher concentrations.

**Keywords:** Beetroot, liquid lip and cheek, formulation, SPF