

ABSTRAK

Latar Belakang: Jeruk manis merupakan tanaman yang mengandung senyawa flavonoid yang berkhasiat antioksidan. Beras merah memiliki manfaat antioksidan alami seperti kulit jeruk manis. *Body scrub* adalah sediaan yang dapat dikembangkan dengan cara mengkombinasikan ekstrak kulit jeruk manis dan beras merah sebagai *scrubber*. Tujuan penelitian ini untuk mengetahui sifat fisik, iritasi, aktivitas antioksidan, hedonik setiap formula berdasarkan perbedaan konsentrasi ekstrak.

Metode: Penelitian ini merupakan penelitian eksperimental. Rancangan formula kombinasi adalah FI (1,25%), FII (2,5%), dan FIII (5%). Parameter uji yang diamati berupa organoleptis, pH, homogenitas, daya sebar, daya lekat, viskositas, waktu kering, stabilitas, IC_{50} , hedonik, iritasi. Data organoleptis, homogenitas, iritasi, stabilitas, dianalisis secara deskriptif. Data pH, daya sebar, daya lekat, viskositas, waktu kering, hedonik, IC_{50} dianalisis normalitas dan homogenitas kemudian dilanjutkan dengan analisis *One Way ANOVA* dan *Duncan* pada SPSS 20.

Hasil: Berdasarkan hasil evaluasi fisik FI-FIII memiliki karakteristik yang sesuai dengan standar. Nilai IC_{50} FI-FIII adalah $288,499 \pm 7,690$; $108,773 \pm 0,623$; $74,861 \pm 0,072$ ppm, sehingga FIII merupakan formula terbaik. Pada uji hedonik warna, panelis menyukai K- dan F1. Pada penilaian bau, tidak terdapat perbedaan signifikan antar formula. Pengujian hedonik tekstur menunjukkan panelis lebih menyukai tekstur *body scrub* FIII.

Kesimpulan: Formula III memiliki aktivitas antioksidan terbaik diantara formula lain. Konsentrasi ekstrak pada setiap formula dapat mempengaruhi penilaian hedonik warna dan tekstur.

Kata Kunci: Kulit Jeruk Manis, Radikal Bebas, *Scrub*, Antioksidan, DPPH.

ABSTRACT

Background: Sweet orange is a plant that contains flavonoid compounds that have antioxidant properties. Brown rice has natural antioxidant benefits like sweet orange peel. Body scrub is a preparation that can be developed by combining sweet orange peel extract and brown rice as a scrubber. The purpose of this study was to determine the physical properties, irritation, antioxidant activity, hedonic of each formula based on differences in extract concentration.

Methods: This research is an experimental research. The design of the combination formula was FI (1.25%), FII (2.5%), and FIII (5%). The test parameters observed were organoleptical, pH, homogeneity, spreadability, adhesiveness, viscosity, dry time, stability, IC₅₀, hedonic, irritation. Organoleptic data, homogeneity, irritation, stability, were analyzed descriptively. Data on pH, dispersibility, stickiness, viscosity, dry time, hedonic, IC₅₀ were analyzed for normality and homogeneity then continued with OneWay ANOVA and Duncan analysis on SPSS 20.

Results: Based on the physical evaluation results of FI-FIII have characteristics that are in accordance with the standard. The IC₅₀ values of FI-FIII are 288.499 ± 7.690 ; 108.773 ± 0.623 ; 74.861 ± 0.072 ppm, so FIII is the best formula. In the color hedonic test, panelists liked K- and F1. On odor assessment, there was no significant difference between formulas. Hedonic testing of texture showed that panelists preferred the texture of body scrub FIII.

Conclusion: Formula III has the best activity antioxidant among other formulas. Extract concentration in each formula can affect the hedonic assessment of color and texture.

Keywords: Sweet Orange Peel, Free Radicals, Scrub, Antioxidant, DPPH.