

INTISARI

PENGARUH PENAMBAHAN SERBUK *Ulva rigida* TERHADAP MUTU DAN AKTIVITAS ANTIOKSIDAN SABUN MANDI PADAT

Ulva rigida merupakan rumput laut yang mengandung senyawa bioaktif berupa flavonoid, fenolik, karotenoid, polisakarida ulvan, pigmen klorofil yang memiliki aktivitas antioksidan. Penelitian ini bertujuan untuk mengetahui karakteristik fisik dan kimia, serta aktivitas antioksidan sabun mandi padat dengan penambahan serbuk *Ulva rigida*. Formulasi sabun dilakukan menggunakan metode *cold process* dengan variasi konsentrasi serbuk *Ulva rigida* sebesar 0%, 2%, 4%, dan 6% dengan penambahan minyak kelapa, minyak zaitun, NaOH dan akuades. Parameter yang diuji meliputi kadar air, kekerasan, pH, stabilitas busa, bahan tak larut, asam lemak bebas, warna, serta aktivitas antioksidan menggunakan metode DPPH. Data dianalisis menggunakan ANOVA dengan taraf signifikansi 95%. Hasil penelitian menunjukkan bahwa penambahan serbuk *Ulva rigida* berpengaruh terhadap kadar air, warna, dan bahan tak larut, sedangkan kekerasan, pH, stabilitas busa, asam lemak bebas, dan alkali bebas tidak berpengaruh nyata. Nilai IC_{50} aktivitas antioksidan menurun dari 1757,583 ppm pada kontrol menjadi 565,767 ppm pada perlakuan 6%, menunjukkan peningkatan aktivitas antioksidan seiring bertambahnya konsentrasi *Ulva rigida*. Perlakuan 6% memiliki mutu fisik dan kimia yang memenuhi standar SNI 3532:2021, sehingga dapat dikategorikan sebagai formulasi yang baik.

Kata kunci: aktivitas antioksidan, karakteristik mutu, sabun mandi padat, *Ulva rigida*

ABSTRACT

THE EFFECT OF *Ulva rigida* POWDER ADDITION ON QUALITY AND ANTIOXIDANT ACTIVITY OF SOLID BATH SOAP

Ulva rigida is a seaweed containing bioactive compounds such as flavonoids, phenolics, carotenoid, ulvan, chlorophyll pigments with antioxidant activity. This study aimed to determine the physical and chemical characteristics as well as the antioxidant activity of solid bath soap with the addition of *Ulva rigida* powder. The soap was formulated using the cold process method with variations of *Ulva rigida* powder concentrations of 0%, 2%, 4%, and 6%, with addition of coconut oil, olive oil, NaOH, and distilled water. The parameters analyzed included moisture content, hardness, pH, foam stability, insoluble matter, free fatty acids, color, and antioxidant activity using DPPH method. Data were analyzed using ANOVA at a 95% significance level. The results showed that the addition of *Ulva rigida* powder significantly affected moisture content, color, and insoluble matter, while hardness, pH, foam stability, free fatty acids, and free alkali were not significantly affected. The IC_{50} value of antioxidant activity decreased from 1757,583 ppm in the control to 565,767 ppm at 6% concentration, indicating an increase in antioxidant activity with higher *Ulva rigida* concentration. The 6% formulation had physical and chemical quality that met the SNI 3532:2021 standard and could therefore be categorized as the best formulation.

Keywords: antioxidant activity, quality characteristics, *Ulva rigida*, solid bath soap