

PERBANDINGAN METODE PENGERINGAN TERHADAP KANDUNGAN ANTOSIANIN DAN AKTIVITASNYA SEBAGAI ANTIOKSIDAN PADA UBI JALAR UNGU (*Ipomea Batatas* var *Ayamurasaki*)

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ABSTRAK

Ubi jalar ungu (*Ipomoea batatas* L. var. *Ayamurasaki*) diketahui mengandung antosianin yang berperan sebagai senyawa antioksidan. Senyawa tersebut dapat mengalami perubahan selama proses pengeringan karena dipengaruhi oleh karakteristik metode pengeringan yang digunakan. Penelitian ini dilakukan untuk membandingkan tiga metode pengeringan, yaitu *freeze drying*, *oven drying*, dan *sun drying* terhadap kadar antosianin serta aktivitas antioksidan ubi jalar ungu. Sampel dari masing-masing metode pengeringan diekstraksi menggunakan metode *Ultrasonic Assisted Extraction* dengan pelarut etanol 96%. Penetapan kadar antosianin dilakukan menggunakan metode pH diferensial, sedangkan aktivitas antioksidan dianalisis dengan metode DPPH dan dinyatakan sebagai nilai IC_{50} . Hasil menunjukkan bahwa kadar antosianin tertinggi berturut-turut diperoleh pada metode *freeze drying* ($10,5982 \text{ mg/g} \pm 0,0255$), *sun drying* ($2,6830 \text{ mg/g} \pm 0,0169$), dan *oven drying* ($0,7737 \text{ mg/g} \pm 0,0214$). Selanjutnya, hasil uji aktivitas antioksidan menunjukkan bahwa aktivitas antioksidan terkuat berturut-turut diperoleh pada metode *freeze drying* ($6,9851 \text{ ppm} \pm 0,0125$), *sun drying* ($21,8644 \text{ ppm} \pm 0,0906$), dan *oven drying* ($30,9333 \text{ ppm} \pm 0,1628$). Hasil analisis *One Way ANOVA* menunjukkan adanya perbedaan signifikan antarperlakuan pengeringan, uji korelasi Pearson juga menunjukkan hubungan yang signifikan antara kadar antosianin dan aktivitas antioksidan ($p < 0,05$). Berdasarkan hasil penelitian, *freeze drying* merupakan metode pengeringan terbaik untuk mempertahankan kandungan antosianin dan aktivitas antioksidan ubi jalar ungu.

Kata Kunci : antosianin, ubi jalar ungu, *freeze drying*, *oven drying*, *sun drying*

COMPARISON OF DRYING METHODS BASED ON ANTHOCYANIN CONTENT AND ANTIOXIDANT ACTIVITY OF PURPLE SWEET POTATO (*IPOMOEA BATATAS* VAR *AYAMURASAKI*)

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Abstract

*Purple sweet potato (*Ipomoea batatas* L. var. *Ayamurasaki*) is known to contain anthocyanins that act as antioxidant compounds. These compounds may change during drying due to the influence of the drying method's characteristics. This study compared three drying methods, such as freeze drying, oven drying, and sun drying, on the anthocyanin content and antioxidant activity of purple sweet potato. Samples from each drying method were extracted using Ultrasonic Assisted Extraction with 96% ethanol. Anthocyanin content was determined using the pH differential method, whereas antioxidant activity was analyzed using the DPPH method and expressed as IC_{50} values. The highest anthocyanin content was obtained sequentially from freeze drying ($10.5982 \text{ mg/g} \pm 0.0255$), sun drying ($2.6830 \text{ mg/g} \pm 0.0169$), and oven drying ($0.7737 \text{ mg/g} \pm 0.0214$). The strongest antioxidant activity was also obtained sequentially from freeze drying ($6.9851 \text{ ppm} \pm 0.0125$), sun drying ($21.8644 \text{ ppm} \pm 0.0906$), and oven drying ($30.9333 \text{ ppm} \pm 0.1628$). One Way ANOVA showed significant differences among drying treatments, while Pearson correlation showed a significant relationship between anthocyanin content and antioxidant activity ($p < 0.05$). Based on these findings, freeze drying was the best drying method for maintaining anthocyanin content and antioxidant activity of purple sweet potato.*

Keywords : *anthocyanins, purple sweet potato, freeze drying, oven drying, sun drying.*