

PENGARUH METODE EKSTRAKSI TERHADAP KADAR FLAVONOID TOTAL DAUN SUKUN (*Artocarpus altilis* (Park.) Fosberg)

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INTISARI

Latar Belakang: Tanaman sukun (*Artocarpus altilis* (Park) Fosberg.) merupakan tanaman herbal Indonesia yang telah lama dimanfaatkan sebagai obat tradisional oleh masyarakat. Daun sukun digunakan untuk mengobati berbagai penyakit seperti sariawan, hepatitis, radang, penyakit kulit, hipertensi, asma, demam, dan pegal-pegal. Daun sukun memiliki berbagai aktivitas farmakologis, seperti antiseptik, antibakteri, dan antioksidan. Aktivitas ini terkait dengan kandungan senyawa flavonoid dalam daun sukun. Senyawa flavonoid tersebut dapat diperoleh dengan ekstraksi menggunakan metode maserasi dan *Ultrasonic-Assisted Extraction* (UAE). Pemilihan metode ekstraksi menjadi faktor penting dalam menghasilkan senyawa metabolit sekunder seperti flavonoid dengan kadar terbaik.

Tujuan Penelitian: Mengetahui pengaruh metode ekstraksi terhadap kadar flavonoid total pada daun sukun.

Metode Penelitian: Daun sukun diekstraksi menggunakan metode maserasi dan UAE dengan pelarut etanol 96% perbandingan 1:10 antara simplisia dan pelarut. Uji kualitatif dilakukan dengan uji organoleptik dan uji kromatografi lapis tipis (KLT). Uji kuantitatif dengan mengukur kadar flavonoid total ekstrak daun sukun hasil maserasi dan UAE menggunakan spektrofotometer UV-Vis. Data kualitatif yang diperoleh kemudian dianalisis secara statistik dengan taraf kepercayaan 95% menggunakan uji *Independent Samples T-Test*.

Hasil Penelitian: Nilai rendemen metode maserasi sebesar 11,8976% dan metode UAE 11,0854%. Hasil uji KLT ekstrak daun sukun menghasilkan nilai R_f 0,812 yang sama dengan nilai R_f standar kuersetin yaitu R_f 0,812 dan kadar flavonoid total yang dihasilkan oleh metode UAE sebesar $44,689 \pm 0,1764$ mg QE/g ekstrak, dan metode maserasi $42,3322 \pm 0,3792$ mg QE/g ekstrak yang berbeda secara signifikan ($p < 0,05$).

Kesimpulan: Terdapat pengaruh metode ekstraksi terhadap kadar flavonoid total pada daun sukun, dimana metode ekstraksi UAE menghasilkan kadar flavonoid yang lebih tinggi dibandingkan metode maserasi.

Kata Kunci: Daun Sukun, Kadar Flavonoid, Maserasi, Metode ekstraksi, UAE

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EFFECT OF EXTRACTION METHOD ON TOTAL FLAVONOID LEVELS OF BREADFRUIT LEAVES (*Artocarpus altilis* (Park.) Fosberg)

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ABSTRACT

Background: Breadfruit (*Artocarpus altilis* (Park) Fosberg.) is an Indonesian herbal plant that has long been utilized as a traditional medicine by the community. Breadfruit leaves are used to treat various diseases such as mouth ulcers, hepatitis, inflammation, skin diseases, hypertension, asthma, fever, and aches. Breadfruit leaves have various pharmacological activities, such as antiseptic, antibacterial, and antioxidant. These activities are related to the flavonoid compounds in breadfruit leaves. These flavonoid compounds can be obtained by extraction using maceration and Ultrasonic-Assisted Extraction (UAE) methods. The choice of extraction method is an important factor in producing secondary metabolite compounds such as flavonoids with the best levels.

Objective: To determine the effect of extraction method on total flavonoid content in breadfruit leaves.

Methods: Breadfruit leaves were extracted using maceration and UAE methods with 96% ethanol solvent in a 1:10 ratio between simplisia and solvent. Qualitative test was conducted by organoleptic test and thin layer chromatography (KLT) test. Quantitative test by measuring the total flavonoid content of breadfruit leaf extract from maceration and UAE using UV-Vis spectrophotometer. Qualitative data obtained were then analyzed statistically with a confidence level of 95% using the Independent Samples T -Test test.

Results: The yield value of maceration method was 11.8976% and UAE method was 11.0854%. The results of the KLT test of breadfruit leaf extract produced an Rf value of 0.812 which is the same as the Rf value of the quercetin standard, namely Rf 0.812 and the total flavonoid content produced by the UAE method was 44.689 ± 0.1764 mg QE/g extract, and the maceration method was 42.3322 ± 0.3792 mg QE/g extract which was significantly different ($p < 0.05$).

Conclusion: There is an effect of extraction method on total flavonoid levels in breadfruit leaves, where the UAE extraction method produces higher flavonoid levels than the maceration method.

Keywords: Sukun leaf, Flavonoid content, Maceratio, Extraction method, UAE

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