

PENETAPAN KADAR TOTAL TANIN PADA DAUN KERSEN (*Muntingia calabura* L.) YANG DIEKSTRAKSI DENGAN METODE ULTRASONIC ASSISTED EXTRACTION (UAE)

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INTISARI

Latar Belakang: Tanaman daun kersen (*Muntingia calabura* L.) merupakan tanaman yang tumbuh liar yang dapat ditemui di tepi jalan dan saluran pembuangan. Tanaman ini dinilai tidak ekonomis dan kurang bermanfaat padahal daun mengandung senyawa tanin dan memiliki manfaat seperti mengatasi diare, antiinflamasi, astringen, antibakteri dan antioksidan. Metode ekstraksi yang umum digunakan untuk mendapatkan tanin salah satunya adalah metode *Ultrasonic Assited Extraction* (UAE). Metode UAE menggunakan gelombang ultrasonik untuk memecah dinding sel tanaman dan meningkatkan pelepasan senyawa bioaktif sehingga mempercepat proses ekstraksi dan meningkatkan efisiensi ekstraksi.

Tujuan Penelitian: Mengetahui kadar total tanin daun kersen yang diekstraksi dengan metode UAE.

Metode Penelitian: Daun kersen diekstraksi dengan metode *Ultrasonic-Assisted Extraction* (UAE) menggunakan pelarut etanol 70% (1:10) yang dipekatkan dengan rotary evaporator hingga menjadi ekstrak kental. Dilakukan penetapan kadar air, uji organoleptik dan identifikasi senyawa tanin secara kualitatif. Identifikasi senyawa tanin menggunakan spektrofotometer UV-Vis dan asam tanat digunakan sebagai standar penetapan kadar total tanin.

Hasil Penelitian: Ekstrak daun kersen diketahui mengandung senyawa tanin dari hasil identifikasi senyawa tanin secara kualitatif dan diperoleh kadar air sebesar 6,15%. Kadar total tanin pada ekstrak daun kersen yaitu sebesar $70,667 \pm 0,764$ mg TAE/g sampel.

Kesimpulan: Daun kersen yang diekstraksi dengan metode UAE mengandung senyawa tanin dengan perolehan kadar total tanin yaitu sebesar $70,667 \pm 0,764$ mg TAE/g sampel.

Kata Kunci: Daun kersen, *Muntingia calabura* L, Etanol 70%, Tanin, UAE.

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Determination of Total Tannin Content in *Muntingia calabura* L. Leaves Extracted Using Ultrasonic Assisted Extraction (UAE) Method

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ABSTRACT

Background: *Muntingia calabura* L. is a wild plant often found growing along roadsides and drainage ditches. It is often considered economically insignificant and underutilized, despite its potential benefits. The leaves of this plant contain tannins, which possess various beneficial properties, including antidiarrheal, anti-inflammatory, astringent, antibacterial, and antioxidant effects. One common method for extracting tannins from plant material is Ultrasonic Assisted Extraction (UAE). UAE employs ultrasonic waves to disrupt plant cell walls, enhancing the release of bioactive compounds, accelerating the extraction process, and improving extraction efficiency.

Objectives: To determine the total tannin content in *Muntingia calabura* L. leaves extracted using the Ultrasonic Assisted Extraction (UAE) method.

Methods: *Muntingia calabura* L. leaves were extracted using the Ultrasonic Assisted Extraction (UAE) method with 70% ethanol as the solvent (ratio 1:10). The extracts were then concentrated using a rotary evaporator to obtain concentrated extracts. Moisture content determination, organoleptic tests, and qualitative identification of tannins were performed. Tannin identification was carried out using a UV-Vis spectrophotometer, and tannic acid was used as the standard for total tannin content determination.

Result: Kersen leaf extract is known to contain tannin compounds from the qualitative identification of tannin compounds and obtained a moisture content of 6.15%. The total tannin content in kersen leaf extract was 70.667 ± 0.764 mg TAE/g sample.

Conclusion: Kersen leaves extracted by the UAE method contain tannin compounds with a total tannin content of 70.666 ± 0.763 mg TAE/g sample.

Keywords: *Muntingia calabura* L., Ethanol 70%, Tannin, Ultrasonic-Assisted Extraction

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