ABSTRAK

Judul Skripsi : Pengaruh Metode Pengeringan dan Bagian Tumbuhan terhadap Aktivitas Antioksidan Ekstrak Stevia (*Stevia rebaudiana* B) dengan Metode Ekstraksi Berbantuan Gelombang Mikro (MAE)

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Stevia (*Stevia rebaudiana* B) memiliki aktivitas antioksidan sehingga memiliki kemampuan dalam meningkatkan sistem kekebalan tubuh dan mencegah radikal bebas penyebab penyakit. Penelitian ini bertujuan untuk membuktikan adanya pengaruh cara pengeringan dan bagian tanaman terhadap aktivitas antioksidan stevia menggunakan metode DPPH (2,2-difenil-1-pikrilhidrazil). Ekstrak diperoleh dengan metode ekstraksi berbantuan gelombang mikro (MAE). Ekstrak yang diperoleh dilakukan skrining fitokimia hasil pada skrining fitokimia menunjukkan bahwa ekstrak stevia memiliki senyawa golongan alkaloid, flavonoid, saponin dan tanin. Uji aktivitas antioksidan menggunakan metode DPPH dan menggunakan vitamin C sebagai kontrol positif, pengujian ini menggunakan *plate reader* dan alat spektrofotometer UV-Vis. Nilai aktivitas antioksidan dari berbagai metode pengeringan dan bagian tumbuhan didapatkan daun pengeringan secara matahari langsung (674,52 ppm), daun pengeringan secara tertutup kain (943,23 ppm), daun pengeringan secara dehidrator (363,49 ppm), batang pengeringan matahari langsung (1285,85 ppm), batang pengeringan tertutup kain (1189,82 ppm), batang pengeringan dehidrator (616,07 ppm), akar pengeringan secara langsung (1670,87 ppm), akar pengeringan secara tertutup kain (2081,18 ppm), dan akar pengeringan dehidrator (949,09 ppm) dapat disimpulkan bahwa ekstrak stevia memiliki perbandingan aktivitas antioksidan dari perbandingan metode pengeringan dan bagian tanaman meliputi daun, batang dan akar rata-rata > 200 ppm dimana dapat diartikan aktivitas antioksidan lemah.

Kata Kunci : *Stevia rebaudiana* B, MAE, IC_{50}, Spektrofotometer UV-Vis, DPPH

ABSTRACT

Thesis Title : Effect of Drying Method and Plant Parts on Antioxidant Activity of Stevia Extract (Stevia rebaudiana B) Using Microwave Assisted Extraction (MAE) Method
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Stevia (Stevia rebaudiana B) has antioxidant activity so that it has the ability to boost the immune system and prevent disease-causing free radicals. This study aims to prove the effect of drying method and plant parts on the antioxidant activity of stevia using the DPPH method (2,2-diphenyl-1-picrylhydrazil). The extract was obtained by the microwave-assisted extraction (MAE) method. The extract obtained was carried out by phytochemical screening. The results of the phytochemical screening showed that the stevia extract had alkaloids, flavonoids, saponins and tannins. Antioxidant activity test using the DPPH method and using vitamin C as a positive control, this test uses a plate reader and UV-Vis spectrophotometer. The antioxidant activity values of various drying methods and plant parts were obtained by direct sun drying (674.52 ppm), cloth-covered drying leaves (943.23 ppm), dehydrating leaves (363.49 ppm), direct sun drying stems (1285.85 ppm), cloth-covered drying rod (1189.82 ppm), dehydrator drying rod (616.07 ppm), direct drying root (1670.87 ppm), cloth-covered drying root (2081.18 ppm) , and root drying dehydrator (949.09 ppm) it can be concluded that stevia extract has a comparison of antioxidant activity from the comparison of drying method and plant parts including leaves, stems and roots on average > 200 ppm which means weak antioxidant activity.

Keywords : Stevia rebaudiana B, MAE, IC50, UV-Vis Spectrophotometer, DPPH