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PENGARUH PELARUT EKSTRAKSI TERHADAP KADAR FLAVONOID TOTAL DAN AKTIVITAS ANTIOKSIDAN BUAH BIT (*Beta vulgaris* L.)

ABSTRAK

Latar belakang : Buah bit (*Beta vulgaris* L.) merupakan salah satu buah yang mengandung senyawa metabolit sekunder flavonoid, senyawa flavonoid pada buah bit memiliki aktivitas antioksidan. Tujuan penelitian ini adalah untuk menganalisis pengaruh perbedaan pelarut ekstraksi terhadap kadar flavonoid total dan aktivitas antioksidan ekstrak buah bit.
Metode : Ekstraksi buah bit menggunakan metode maserasi dengan pelarut etanol 70% dan 96%. Uji flavonoid total dengan $AlCl_3$ menggunakan konsentrasi 60 ppm, 70 ppm, 80 ppm, 90 ppm, 100 ppm. Aktivitas antioksidan metode DPPH dengan konsentrasi 4 ppm, 5 ppm, 6 ppm, 7 ppm, 8 ppm menggunakan spektrofotometri UV-Vis. Uji SPSS flavonoid total menggunakan T-Test dan aktivitas antioksidan menggunakan Anova.
Hasil : Rendemen ekstrak etanol 70% sebesar 34,23%, dan ekstrak etanol 96% sebesar 16,97%, kadar flavonoid total ekstrak etanol 70% sebesar 47,76 mgQE/g dan ekstrak etanol 96% sebesar 45,01 mgQE/g. Nilai IC_{50} ekstrak etanol 70% sebesar 5,246 ppm dan IC_{50} ekstrak etanol 96% sebesar 5,849 ppm. Hasil SPSS menunjukkan bahwa ada perbedaan yang signifikan antara kadar flavonoid total dan aktivitas antioksidan dengan hasil p-value 0,000 < 0,05.
Kesimpulan : Terdapat pengaruh perbedaan pelarut pada kadar flavonoid total dan aktivitas antioksidan. Pelarut yang paling optimal untuk mendapatkan hasil flavonoid total dan aktivitas antioksidan ekstrak buah bit adalah etanol 70%

Kata kunci : pelarut etanol 70% dan 96%, buah bit, flavonoid total, antioksidan

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EFFECT OF SOLVENT EXTRACTION ON TOTAL FLAVONOIDS CONTENT AND ANTIOXIDANT ACTIVITY OF BEETS (*Beta vulgaris* L)

ABSTRACT

Background : Beetroot (*Beta vulgaris* L) is a fruit that contains secondary metabolites of flavonoids, the flavonoid compounds in beets have antioxidant activity. The purpose of this study was to analyze the effect of different extraction solvents on total flavonoid content and antioxidant activity of beetroot extract.
Methods : Bit fruit extraction using maceration method with 70% and 96% ethanol solvent. Total flavonoid test with $AlCl_3$ using concentrations of 60 ppm, 70 ppm, 80 ppm, 90 ppm, 100 ppm. The antioxidant activity of the DPPH method with concentrations of 4 ppm, 5 ppm, 6 ppm, 7 ppm, 8 ppm used UV-Vis spectrophotometry. SPSS test for total flavonoids using the T-Test and antioxidant activity using ANOVA.
Results : The yield of 70% ethanol extract was 34.23%, and 96% ethanol extract was 16.97%, the total flavonoid content of 70% ethanol extract was 47.76 mgQE/g and 96% ethanol extract was 45.01 mgQE/g. The IC_{50} value of 70% ethanol extract was 5.246 ppm and the IC_{50} value of 96% ethanol extract was 5.849 ppm. SPSS results showed that there was a significant difference between total flavonoid content and antioxidant activity with a p-value of 0.000 <0.05.
Conclusion : There is an effect of different solvents on the total flavonoid content and antioxidant activity. The most optimal solvent to obtain total flavonoids and antioxidant activity of beetroot extract is 70% ethanol

Keywords : 70% and 96% ethanol solvent, beets, total flavonoids, antioxidants