

INTISARI

Saat ini terdapat berbagai produk kesehatan dari daun binahong (*Anredera cordifolia* (Ten.) Steenis). Daun binahong membantu menyembuhkan luka karena mengandung flavonoid. Penelitian ini bertujuan untuk mengetahui kondisi ekstraksi optimum untuk mendapatkan kadar flavonoid tertinggi dari daun binahong menggunakan *Response Surface Methodology* (RSM).

Faktor yang diuji meliputi suhu ekstraksi (30°C, 40°C, 50°C), konsentrasi etanol (65%, 80%, 95%), dan kecepatan pengadukan (80 rpm, 100 rpm, 120 rpm). Daun binahong dikumpulkan, dideterminasi, dan diolah menjadi serbuk kering. Serbuk daun binahong diekstraksi sesuai *Box-Behnken Design* (BBD) hingga diperoleh ekstrak kental, lalu ditetapkan susut pengeringan, profil kromatogram KLT, rendemen, serta kadar flavonoid totalnya menggunakan spektrofotometri UV-Vis. Data kadar flavonoid total dianalisis untuk memperoleh persamaan model yang menunjukkan kondisi ekstraksi optimum. Persamaan model diuji secara statistik dan diuji asumsi *residual*. Interaksi antarfaktor diinterpretasikan melalui *contour plot*. Percobaan verifikasi dilakukan dan dianalisis dengan uji *one sample t-test*.

Berdasarkan hasil RSM, kondisi ekstraksi optimum untuk menghasilkan kadar flavonoid tertinggi dari daun binahong yaitu pada suhu ekstraksi 47°C, konsentrasi etanol 65% v/v, dan kecepatan pengadukan 90 rpm. Tidak terdapat perbedaan signifikan antara kadar flavonoid total prediksi model dengan hasil percobaan verifikasi sehingga persamaan model dapat digunakan untuk memprediksi respon kadar flavonoid total dari daun binahong.

Kata kunci : Daun binahong, *Response Surface Methodology*, faktor ekstraksi, kadar flavonoid total

ABSTRACT

Currently there are various health products from binahong leaves (*Anredera cordifolia* (Ten.) Steenis). Binahong leaves help heal wounds because it contains flavonoids. This research aims to determine the optimum extraction conditions to obtain the highest flavonoid levels from binahong leaves using Response Surface Methodology (RSM).

Factors tested included extraction temperature (30°C, 40°C, 50°C), ethanol concentration (65%, 80%, 95%), and stirring speed (80 rpm, 100 rpm, 120 rpm). Binahong leaves were collected, determined, and processed into dry powder. Binahong leaf powder was extracted according to the Box-Behnken Design (BBD) until a thick extract was obtained, then the drying loss, TLC chromatogram profile, yield, and total flavonoid content were determined using UV-Vis spectrophotometry. Data on total flavonoid levels were analyzed to obtain a model equation indicating optimum extraction conditions. The model equation was tested statistically and the residual assumptions were tested. Interactions between factors are interpreted through contour plots. Verification experiments were carried out and analyzed using one sample t-test.

Based on the RSM results, the optimum extraction conditions to produce the highest levels of flavonoids from binahong leaves is at an extraction temperature of 47°C, ethanol concentration of 65% v/v, and stirring speed of 90 rpm. There was no significant difference between the total flavonoid levels predicted by the model and the results of the verification experiment so that the model equation could be used to predict the response to total flavonoid levels from binahong leaves.

Keywords : Binahong leaves, Response Surface Methodology, extraction factors, total flavonoid content