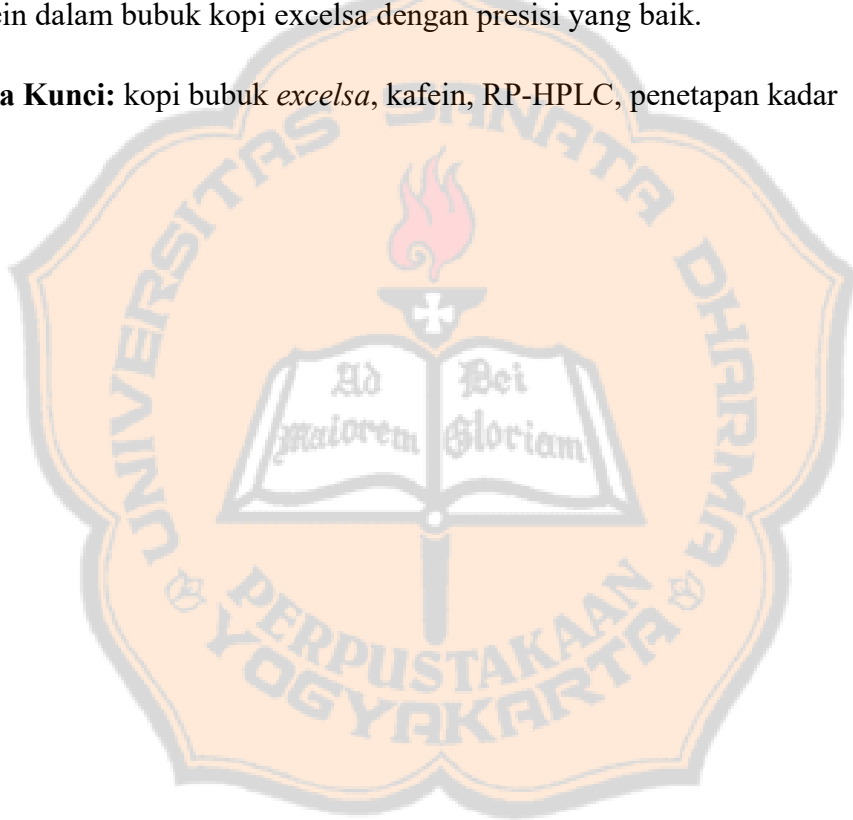


ABSTRAK

Kopi excelsa (*Coffea liberica* var. *dewevrei*) mengandung kafein sebagai senyawa alkaloid utama yang berperan dalam karakteristik kopi. Penelitian ini bertujuan menetapkan kadar kafein dalam bubuk kopi excelsa menggunakan metode *Reverse Phase-High Performance Liquid Chromatography* (RP-HPLC). Sampel dianalisis menggunakan kolom C18 dengan fase gerak *aquabidest*:metanol (30:70, v/v), laju alir 1,2 mL/menit, dan deteksi pada panjang gelombang 272 nm. Kurva baku menghasilkan persamaan regresi $y = 21038x + 30066$ dengan koefisien korelasi $r = 0,9994$. Hasil penelitian menunjukkan kadar kafein dalam bubuk kopi excelsa berada pada rentang 0,491–0,510% b/b dengan rata-rata 0,499% b/b dan nilai koefisien variasi (CV) sebesar 0,991%. Hasil tersebut menunjukkan bahwa metode RP-HPLC dapat digunakan untuk penetapan kadar kafein dalam bubuk kopi excelsa dengan presisi yang baik.

Kata Kunci: kopi bubuk *excelsa*, kafein, RP-HPLC, penetapan kadar



ABSTRACT

Excelsa coffee (*Coffea liberica* var. *dewevrei*) contains caffeine as its major alkaloid compound, which contributes to the characteristic properties of coffee. This study aimed to determine the caffeine content in Excelsa coffee powder using the *Reverse Phase-High Performance Liquid Chromatography* (RP-HPLC) method. The samples were analyzed using a C18 column with a distilled *aquabidest*:methanol (30:70, v/v) mobile phase, a flow rate of 1.2 mL/min, and UV detection at a wavelength of 272 nm. The calibration curve showed a regression equation of $y = 21038x + 30066$ with a correlation coefficient of $r = 0.9994$. The results showed that the caffeine content in Excelsa coffee powder ranged from 0.491–0.510% w/w, with an average value of 0.499% w/w and a coefficient of variation (CV) of 0.991%. These findings indicate that the RP-HPLC method can be used for the quantitative determination of caffeine in excelsa coffee powder with good precision.

Keywords: *Excelsa* ground coffee, caffeine, RP-HPLC, caffeine determination.

