

**UJI AKTIVITAS ANTIOKSIDAN EKSTRAK BIJI KOPI ARABIKA (*Coffea Arabica*. L) GUNUNG PUNTANG SEBELUM DAN SETELAH
PENYANGRAIAN**

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ABSTRAK

Kopi mengandung senyawa bioaktif seperti fenolik dan flavonoid yang berperan sebagai antioksidan. Penelitian ini bertujuan mengetahui perbedaan aktivitas antioksidan ekstrak biji kopi Arabika Gunung Puntang sebelum dan setelah penyangraian, serta pengaruh proses penyangraian terhadap aktivitas tersebut. Ekstraksi dilakukan secara refluks bertingkat menggunakan pelarut n-heksan, etil asetat, dan etanol. Aktivitas antioksidan dianalisis dengan metode DPPH (IC_{50}) dan CUPRAC (EC_{50}), sedangkan kadar fenolik total dan flavonoid ditentukan dengan metode Folin-Ciocalteu dan $AlCl_3$. Hasil menunjukkan ekstrak etanol sebelum penyangraian memiliki aktivitas antioksidan tertinggi (EC_{50} CUPRAC = $30,08 \pm 0,12$ ppm; IC_{50} DPPH = $55,69 \pm 0,58$ ppm). Kadar fenolik dan flavonoid tertinggi terdapat pada ekstrak etil asetat sebelum penyangraian ($11,82 \pm 0,16$ mg GAE/100 mg; $9,79 \pm 0,06$ mg QE/100 mg). Setelah penyangraian, aktivitas antioksidan metode DPPH menurun pada semua pelarut, sedangkan pada metode CUPRAC meningkat pada ekstrak etil asetat ($31,03 \pm 0,03$ ppm) dan n-heksan ($41,53 \pm 0,64$ ppm), namun menurun pada etanol. Uji Kruskal-Wallis menunjukkan adanya perbedaan signifikan antar kelompok ekstrak ($p < 0,05$).

Kata kunci: kopi arabika, antioksidan, penyangraian, DPPH, CUPRAC

**ANTIOXIDANT ACTIVITY TEST OF ARABICA COFFEE BEAN EXTRACT
(*Coffea arabica* L.) FROM MOUNT PUNTANG BEFORE AND AFTER
ROASTING**

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ABSTRACT

Coffee contains bioactive compounds such as phenolics and flavonoids that act as antioxidants. This study aimed to determine the differences in antioxidant activity of Arabica coffee bean extracts from Gunung Puntang before and after roasting, as well as the effect of roasting on their activity. Extraction was performed by sequential reflux using n-hexane, ethyl acetate, and ethanol. Antioxidant activity was analyzed using the DPPH (IC_{50}) and CUPRAC (EC_{50}) methods, while total phenolic and flavonoid contents were determined using the Folin–Ciocalteu and $AlCl_3$ methods, respectively. The results showed that ethanol extract before roasting exhibited the highest antioxidant activity (EC_{50} CUPRAC = 30.08 ± 0.12 ppm; IC_{50} DPPH = 55.69 ± 0.58 ppm). The highest phenolic and flavonoid contents were found in ethyl acetate extract before roasting (11.82 ± 0.16 mg GAE/100 mg; 9.79 ± 0.06 mg QE/100 mg). After roasting, DPPH antioxidant activity decreased in all solvents, whereas CUPRAC activity increased in ethyl acetate (31.03 ± 0.03 ppm) and n-hexane (41.53 ± 0.64 ppm) extracts, but decreased in ethanol extract. The Kruskal–Wallis test indicated significant differences among extract groups ($p < 0.05$).

Keywords: Arabica coffee, antioxidant, roasting, DPPH, CUPRAC