

**KANDUNGAN METABOLIT *CASCARA* DAN KULIT TANDUK KOPI  
ARABIKA (*Coffea arabica* L.) DENGAN PERBEDAAN METODE  
PENGERINGAN**

**SKRIPSI**

Diajukan untuk memenuhi sebagian syarat memperoleh gelar Sarjana Sains  
Program Studi Biologi



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UNIVERSITAS PENDIDIKAN INDONESIA**

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PENGERINGAN

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## PERNYATAAN

Dengan ini saya menyatakan bahwa skripsi dengan judul “**Kandungan Metabolit *Cascara* dan Kulit Tanduk Kopi Arabika (*Coffea arabica* L.) dengan Perbedaan Metode Pengeringan**” ini beserta seluruh isinya merupakan karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung risiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

Bandung, Agustus 2024

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## Kandungan Metabolit *Cascara* dan Kulit Tanduk Kopi Arabika (*Coffea arabica* L.) dengan Perbedaan Metode Pengeringan

### ABSTRAK

Indonesia merupakan eksportir kopi terbesar ke-3 di dunia. Produksi kopi arabika (*Coffea arabica* L.) yang tinggi menghasilkan limbah berupa kulit buah kopi dengan proporsi lebih dari 50% jumlah hasil panen. Produk sampingan tersebut kurang dimanfaatkan dengan baik. Penelitian ini bertujuan untuk mendapatkan informasi mengenai kandungan metabolit pada *cascara* dan kulit tanduk kopi arabika. *Cascara* dan kulit tanduk diperoleh dari buah kopi matang yang dibudidayakan di Kebun Kopi Kadatuan, Desa Mekarsari, Kabupaten Bandung, Jawa Barat. *Cascara* dan kulit tanduk dikeringkan, dihaluskan, disaring, dan diekstraksi menggunakan metode maserasi dengan pelarut etanol p.a. 70%. Analisis metabolit dilakukan menggunakan instrumen *Gas Chromatography-Mass Spectrometry* (GC-MS) dan diidentifikasi menggunakan pustaka WILLEY09TH. Potensi terkait setiap senyawa diperoleh melalui studi literatur. Hasil penelitian menunjukkan bahwa *cascara* pengeringan sinar matahari (CM) menghasilkan 43 senyawa, *cascara* pengeringan oven (CO) menghasilkan 6 senyawa, kulit tanduk pengeringan sinar matahari (TM) menghasilkan 33 senyawa, dan kulit tanduk pengeringan oven (TO) menghasilkan 9 senyawa. Asam lemak merupakan golongan senyawa paling dominan pada CM (56%), CO (50%), TM (46%), dan TO (56%). Terdapat tiga senyawa sama yang teridentifikasi pada seluruh ekstrak yaitu kafeina, asam palmitat, dan etil palmitat. Kafeina merupakan senyawa dominan dengan konsentrasi 60,01% (TO), 57,30% (CO), 32,32% (TM), dan 22,57% (CM). Kesimpulan penelitian ini yaitu perbedaan metode pengeringan menunjukkan perbedaan jumlah dan jenis metabolit. Jumlah metabolit pada pengeringan sinar matahari lebih banyak dibandingkan dengan menggunakan oven. Pengeringan sinar matahari merupakan metode yang direkomendasikan untuk menjaga kandungan metabolit *cascara* dan kulit tanduk.

Kata kunci: *Cascara*, kulit tanduk, kopi arabika, sinar matahari, oven, kandungan metabolit, *Gas Chromatography-Mass Spectrometry* (GC-MS)

**Metabolite Content of Cascara and Parchment Skin of Arabica Coffee  
(*Coffea arabica* L.) with Different Drying Methods**

**ABSTRACT**

Indonesia is the 3rd largest coffee exporter in the world. High production of Arabica coffee (*Coffea arabica* L.) produces waste in the form of coffee fruit skins with a proportion of more than 50% of the total harvest. These by-products are not utilized properly. This research aims obtain information about metabolite content in cascara and parchment skin of Arabica coffee. Cascara and parchment skin are obtained from ripe coffee cherries cultivated at the Kebun Kopi Kadatuan, Mekarsari Village, Bandung Regency, West Java. Cascara and parchment skin are dried, ground, filtered, and extracted using the maceration method with ethanol p.a. 70%. Metabolite analysis was carried out using a Gas Chromatography-Mass Spectrometry (GS-MS) instrument and identified using the WILLEY09TH library. The potential associated with each compound was obtained through literature study. The results showed that sun-dried cascara (CM) produced 43 compounds, oven-dried cascara (CO) produced 6 compounds, sun-dried parchment (TM) produced 33 compounds, and oven-dried parchment (TO) produced 9 compounds. Fatty acids are the most dominant group of compounds in CM (56%), CO (50%), TM (46%), and TO (56%). There were three similar compounds identified in all extracts, namely caffeine, palmitic acid and ethyl palmitate. Caffeine is the dominant compound with concentrations of 60.01% (TO), 57.30% (CO), 32.32% (TM), and 22.57% (CM). The conclusion is that different drying methods showed differences in the amount and type of metabolites. The number of metabolites in sun drying is greater than when using an oven. Sun drying is the recommended method to maintain the metabolite content of cascara and parchment skin.

Keywords: Cascara, parchment, arabica coffee, sun-dried, oven-dried, metabolite content, Gas Chromatography-Mass Spectrometry (GC-MS)



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