

**KANDUNGAN METABOLIT *CASCARA KOPI ARABIKA*
(*Coffea arabica* L.) KULTIVAR TYPICA DAN SUNDA DI KABUPATEN
BANDUNG DENGAN PERBEDAAN METODE PENGERINGAN**

SKRIPSI

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



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**PROGRAM STUDI BIOLOGI
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA**

2024

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Agustus 2024

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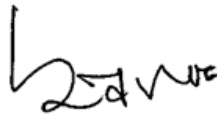
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Dengan ini saya menyatakan bahwa skripsi dengan judul “Kandungan Metabolit *Cascara* Kopi Arabika (*Coffea arabica* L.) Kultivar Typica dan Sunda di Kabupaten Bandung dengan Perbedaan Metode Pengeringan” ini beserta seluruh isinya adalah benar-benar 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 sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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KATA PENGANTAR

Puji syukur senantiasa penulis panjatkan kepada Tuhan Yang Maha Esa, karena atas rahmat, dan karunia-Nya penulis dapat menyelesaikan skripsi yang berjudul “Kandungan Metabolit *Cascara* Kopi Arabika (*Coffea arabica* L.) Kultivar Typica dan Sunda di Kabupaten Bandung dengan Perbedaan Metode Pengeringan” dengan baik. Skripsi disusun dan diajukan untuk memenuhi salah satu syarat untuk memperoleh gelar Sarjana Sains pada Program Studi Biologi, Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam, Universitas Pendidikan Indonesia.

Penulis menyadari bahwa selama penyelesaian skripsi ini banyak sekali hambatan dan kekurangan yang penulis alami, namun berkat bantuan, dukungan, serta bimbingan dari berbagai pihak, skripsi ini dapat diselesaikan dengan baik. Penulis menyadari bahwa skripsi ini masih memiliki banyak kekurangan dan jauh dari sempurna, oleh karena itu, penulis menerima segala kritikan dan saran yang membangun untuk kualitas skripsi yang lebih baik. Penulis berharap bahwa skripsi ini dapat memberikan manfaat bagi pembaca dan dapat dijadikan referensi dan acuan untuk berbagai penelitian selanjutnya.

Bandung, Agustus 2024

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UCAPAN TERIMA KASIH

Puji syukur penulis sampaikan kepada Tuhan Yang Maha Esa yang senantiasa memberikan rahmat dan karunia-Nya sehingga penulis diberi kesabaran, kekuatan, dan keikhlasan dalam menyelesaikan penulisan skripsi dengan baik. Skripsi ini dapat disusun karena bantuan, bimbingan, serta dukungan yang diberikan oleh berbagai pihak. Dengan segala hormat dan ketulusan hati, penulis mengucapkan terima kasih kepada:

1. Ibu Dr. R. Kusdianti, M.Si., selaku Dosen Pembimbing I yang telah mengarahkan, membimbing, memberikan masukan, memotivasi, dan juga memfasilitasi penulis dalam proses penyusunan skripsi sehingga skripsi ini dapat diselesaikan dengan baik.
2. Ibu Dr. Hj. Sariwulan Diana, M.Si., selaku Dosen Pembimbing II yang telah mengarahkan, membimbing, memberikan masukan, dan memotivasi penulis dalam proses penyusunan skripsi sehingga skripsi ini dapat diselesaikan dengan baik.
3. Bapak Dr. H. Wahyu Surakusumah, M.T., selaku Ketua Program Studi Biologi yang telah memberikan bantuan dan ilmu selama masa perkuliahan.
4. Ibu Dr. Any Aryani, M.Si., selaku Dosen Pembimbing Akademik yang selalu memberikan bimbingan dan motivasi selama penulis menjalani perkuliahan.
5. Seluruh Bapak dan Ibu dosen di Program Studi Biologi FPMIPA UPI atas segala ilmu, pengalaman, serta arahan yang diberikan kepada penulis selama perkuliahan berlangsung.
6. Seluruh staf akademik dan tenaga kerja Program Studi Biologi yang telah memberikan fasilitas dan ilmu yang bermanfaat bagi penulis hingga dapat menunjang proses penyusunan skripsi.
7. Kepada Bapak Farhan Pratama selaku pemilik Puntang Coffee dan seluruh petani kopi di Kebun Kopi Gunung Puntang yang telah menyediakan akses ke kebun kopi dan memberikan ilmu dan kesempatan untuk melakukan penelitian terkait *cascara*.

8. Amalia Putri Salsabila dan Rinrin Sakinah sebagai rekan penelitian yang selalu bersedia membantu dan mendukung serta membagikan ilmu bagi penulis di setiap tahap penelitian.
9. Mochamad Fauzi Muharom sebagai sahabat penulis yang telah banyak memberikan dukungan, masukan, serta ilmu baru bagi penulis.
10. Seluruh mahasiswa Biologi C 2020 yang telah berjuang bersama-sama selama masa perkuliahan hingga lulus.
11. Orang tua dan keluarga penulis yang selalu mendoakan, memberikan dukungan, dan memotivasi penulis dengan tulus, terlebih saat proses penyusunan skripsi.
12. Pihak-pihak lain yang telah terlibat dalam proses penulisan skripsi ini yang tidak dapat disebutkan satu persatu.

Semoga Tuhan Yang Maha Esa selalu memberikan kebaikan dan kemudahan sebagai balasan atas kebaikan yang telah diberikan.

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KULTIVAR TYPICA DAN SUNDA DI KABUPATEN BANDUNG DENGAN
PERBEDAAN METODE PENGERINGAN**

ABSTRAK

Kopi arabika (*Coffea arabica* L.) adalah komoditas unggulan Indonesia, dengan Kabupaten Bandung menjadi produsen tertinggi di Jawa Barat. Bagian eksokarp dan mesokarp buah kopi (*cascara*) berpotensi menjadi bahan minuman dengan manfaat kesehatan, namun kadar air yang tinggi memerlukan proses pengeringan yang biasanya dilakukan menggunakan matahari langsung yang rentan perubahan kondisi cuaca dan kontaminasi. Pengeringan menggunakan dehidrator dapat memberikan kondisi yang lebih terkontrol dan diperkirakan dapat mempertahankan kandungan metabolit. Saat ini belum terdapat penelitian mengenai kandungan metabolit *cascara* dari kultivar kopi lokal di Kabupaten Bandung yang dikeringkan menggunakan matahari langsung dan dehidrator. Penelitian ini bertujuan untuk mendapatkan kandungan metabolit pada *cascara* kopi arabika kultivar Typica dan Sunda yang dikeringkan menggunakan matahari langsung dan dehidrator. *Cascara* diambil dari Kebun Kopi Gunung Puntang, Kabupaten Bandung, dan diekstrak menggunakan metode maserasi dengan pelarut etanol p. a. 70%. Kandungan metabolit dianalisis menggunakan *Gas Chromatography-Mass Spectrometry* (GC-MS). Hasil penelitian menunjukkan *cascara* kultivar Typica yang dikeringkan menggunakan matahari langsung memiliki 6 metabolit, sedangkan pengeringan dehidrator memiliki 15 metabolit. Kultivar Sunda pengeringan matahari langsung memiliki 4 metabolit, sedangkan pengeringan dehidrator memiliki 25 metabolit. Seluruh ekstrak didominasi oleh senyawa alkaloid kafeina (Typica matahari langsung: 46,61%; Typica dehidrator: 24,44%; Sunda matahari langsung: 66,68%; Sunda dehidrator: 26,44%). Penelitian ini menunjukkan perbedaan kandungan metabolit pada *cascara* kultivar Typica dan Sunda dengan metode pengeringan berbeda. Pengeringan menggunakan dehidrator menghasilkan lebih banyak metabolit dibandingkan pengeringan matahari langsung. Penelitian selanjutnya disarankan untuk menganalisis kandungan metabolit non-volatil pada *cascara* kultivar Typica dan Sunda untuk melengkapi data kandungan metabolit.

Kata Kunci: *Cascara*, kultivar kopi arabika, metode pengeringan, kandungan metabolit, *Gas Chromatography-Mass Spectrometry* (GC-MS)

**METABOLITE CONTENT OF CASCARA FROM ARABICA COFFEE
(*Coffea arabica* L.) TYPICA AND SUNDA CULTIVARS
IN BANDUNG REGENCY BY DIFFERENT DRYING METHODS**

ABSTRACT

Arabica coffee (*Coffea arabica* L.) is a leading commodity in Indonesia, particularly in Bandung Regency, West Java. The exocarp and mesocarp of the coffee fruit (cascara) can be used to make health-beneficial beverages, but their high moisture content necessitates drying, typically done using direct sunlight. This method is susceptible to weather changes and contamination. Dehydrator drying offers controlled conditions and may better preserve metabolite content. Currently, there is no research on the metabolite content of local coffee cultivars in Bandung Regency dried using direct sunlight versus a dehydrator. This study aims to content the metabolites in Typica and Sunda cascara cultivars using both drying methods. Cascara was collected from Gunung Puntang Coffee Plantation, Bandung Regency, and extracted using maceration with 70% ethanol p. a. solvent. Metabolite content was analyzed using Gas Chromatography-Mass Spectrometry (GC-MS). Results showed that Typica cultivar cascara dried using direct sunlight contained 6 metabolites, while dehydrator drying yielded 15 metabolites. Sunda cultivar cascara dried using direct sunlight had 4 metabolites, whereas dehydrator drying produced 25 metabolites. All extracts were dominated by caffeine, an alkaloid compound (Typica direct sunlight: 46.61%; Typica dehydrator: 24.44%; Sunda direct sunlight: 66.68%; Sunda dehydrator: 26.44%). This study highlights differences in metabolite content between Typica and Sunda cultivar cascara under different drying methods, with dehydrator drying resulting in more metabolites than direct sunlight drying. Further research is recommended to analyze non-volatile metabolites in cascara of Typica and Sunda cultivars to complete the metabolite content data.

Keywords: Cascara, arabica coffee cultivars, drying methods, metabolite content, Gas Chromatography-Mass Spectrometry (GC-MS)

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