

KARAKTERISASI MUTU FISIK DAN KIMIA KOPI LIBERIKA BERDASARKAN ASAL GEOGRAFIS

Intisari

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Kopi Liberika merupakan kopi yang dikenal dengan aroma *dried fruit* atau aroma *jack fruit* (buah nangka). Rendahnya kontribusi kopi Liberika dalam perdagangan kopi dunia tercermin pada rendahnya informasi terkait karakteristik fisikokimia, sensori, dan sifat fungsionalnya. Kualitas dan cita rasa kopi sangat dipengaruhi oleh karakteristik fisik dan kimia kopi sehingga diperlukan karakterisasi mutu fisik dan kimia kopi Liberika. Penelitian ini bertujuan untuk menganalisis perbedaan karakteristik mutu fisik dan kimia kopi Liberika berdasarkan kondisi geografis penanaman kopi. Sampel kopi dikumpulkan dari beberapa wilayah produksi kopi di Indonesia antara lain Jambi, Riau, Banyuwangi, dan Probolinggo. Biji kopi diolah dengan metode pengolahan kering (*natural process*) dan disangrai dengan tingkat sangrai medium *roasting* pada suhu 240°C selama 14 menit serta diayak menggunakan ukuran 60 *mesh* untuk pengujian lebih lanjut. Pengujian terhadap parameter fisik biji kopi meliputi dimensi, densitas kamba, warna, dan bobot. Sementara itu, pengujian parameter kimia bubuk kopi meliputi total fenol dan aktivitas antioksidan menggunakan metode Spektrofotometer UV-Vis serta kafein dan asam klorogenat menggunakan metode HPLC (*High Performance Liquid Chromatography*). Analisis mutu kimia dilakukan berdasarkan perhitungan kadar air basis kering. Hasil pengujian menggunakan uji statistik *Analysis of Varians* (ANOVA) diperoleh bahwa panjang *green bean* dari masing-masing daerah berbeda nyata kecuali biji kopi asal Riau dan Jambi. Lebar biji kopi tidak berbeda nyata kecuali pada biji kopi asal Jambi dan tebal biji kopi memiliki perbedaan nyata kecuali biji kopi asal Jambi dan Banyuwangi. Bobot biji kopi dari masing-masing daerah memiliki perbedaan nyata dan densitas kamba tidak memiliki perbedaan nyata kecuali pada biji kopi asal Riau. Nilai L^* biji kopi memiliki perbedaan nyata kecuali biji kopi asal Jambi dan Probolinggo. Hasil pengujian mutu kimia yaitu kadar kafein dari masing-masing sampel tidak berbeda nyata kecuali pada kopi asal Jambi. Hasil asam klorogenat dan aktivitas antioksidan berbeda nyata pada semua sampel dan nilai total fenol berbeda nyata pada semua sampel kecuali pada sampel asal Jambi dan Probolinggo. Hasil analisis korelasi menunjukkan bahwa senyawa asam klorogenat dan fenol berkorelasi positif terhadap aktivitas antioksidan.

Kata kunci: kopi Liberika, karakterisasi, indikasi geografis, mutu fisik, mutu kimia

CHARACTERIZATION OF PHYSICAL AND CHEMICAL QUALITY OF LIBERICA COFFEE BASED ON GEOGRAPHICAL ORIGIN

ABSTRACT

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Liberica coffee is known for its dried fruit aroma or jack fruit aroma. The low contribution of Liberika coffee in the world coffee trade is reflected in the lack of information related to its physicochemical, sensory, and functional properties. The quality and taste of coffee are strongly influenced by its physical and chemical characteristics, so it is necessary to characterize the physical and chemical quality of Liberika coffee. This study aimed to analyze differences in the physical and chemical quality characteristics of Liberica coffee based on the geographical conditions of coffee cultivation. Coffee samples were collected from several coffee production regions in Indonesia, including Jambi, Riau, Banyuwangi, and Probolinggo. Coffee beans were processed using dry processing, roasted with medium roasting (240°C, 14 minutes), and sieved using 60 mesh. Tests on the physical parameters of coffee beans include dimensions, bulk density, color, and weight. Meanwhile, testing the chemical parameters of coffee powder included total phenolics and antioxidant activity using the UV-Vis Spectrophotometer method as well as caffeine and chlorogenic acid using the HPLC (High-Performance Liquid Chromatography) method. Chemical quality analysis was conducted based on the calculation of dry-basis moisture content. The testing result using the Analysis of Variance (ANOVA) showed that the length of green beans from each region was significantly different except for coffee beans from Riau and Jambi. The width of coffee beans is not significantly different except coffee beans from Jambi and the thickness of coffee beans has a significant difference except coffee beans from Jambi and Banyuwangi. The weight of coffee beans from each region has a significant difference and the cube density has no significant difference except coffee beans from Riau. The L* value of coffee is significantly different except for coffee beans from Jambi and Probolinggo. The results of chemical quality testing, namely the caffeine content of each sample, were not significantly different except for coffee from Jambi. The results of chlorogenic acid and antioxidant activity were significantly different in all samples and the value of total phenols was significantly different in all samples except in samples from Jambi and Probolinggo. Correlation analysis showed that chlorogenic acid and phenol compounds were positively correlated to antioxidant activity.

Keywords: Liberica coffee, characterization, geographical indication, physical quality, chemical quality.