

Karakteristik Cita Rasa dan Fisikokimia Kopi Robusta Argopuro Berdasarkan Lama Waktu Fermentasi *Green Bean* Menggunakan Ekstrak Jeruk Siam. *Sensory and Physicochemical Characteristics of Argopuro Robusta Coffee Based on Green Bean Fermentation Duration Using Citrus nobilis var. microcarpa Extract.*

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Pengelolaan Perkebunan Kopi

Produksi Pertanian

ABSTRAK

Kopi robusta Argopuro memiliki cita rasa cokelat, pahit, dan sedikit rasa asam yang ringan. Salah satu cara untuk mengembangkan kualitas kopi yaitu melalui proses fermentasi. Penelitian ini bertujuan untuk mengetahui pengaruh lama waktu fermentasi *green bean* dengan ekstrak jeruk siam terhadap karakteristik cita rasa dan fisikokimia kopi robusta. Penelitian dilaksanakan di Laboratorium Pengolahan Hasil Pertanian (PHP) dan *Biosains* Politeknik Negeri Jember pada April hingga Juni 2025. Desain Penelitian Menggunakan Rancangan Acak Lengkap (RAL) terdiri dari perlakuan lama fermentasi (0, 12, 24, 36, 48, dan 60 jam) dengan 4 ulangan. Data hasil penelitian di analisa menggunakan uji Kruskal Wallis (parameter uji cita rasa) dan uji ANOVA (parameter fisikokimia). Apabila terdapat signifikan dilakukan uji Mann-Whitney (parameter uji cita rasa) dan uji Beda Nyata Jujur (parameter fisikokimia). Parameter yang diamati meliputi uji cita rasa (*fragrance*, aroma, rasa, *mouthfeel*, *acidity*, *aftertaste*, *bitter*, dan *overall*) serta karakteristik fisikokimia (rendemen, densitas, perubahan volume, kadar air, kadar abu, dan pH). Hasil penelitian menunjukkan bahwa fermentasi selama 24 jam (P2) menghasilkan nilai tertinggi untuk atribut rasa (6,24), aroma (6,33), dan *acidity* (6,11). Rendemen dan densitas juga tertinggi pada P2, masing-masing sebesar 0,87% dan 0,65 g/ml. Fermentasi yang terlalu singkat atau terlalu lama menurunkan mutu sensori. Kesimpulannya, waktu fermentasi *green bean* dengan ekstrak jeruk siam berpengaruh terhadap mutu sensorik dan fisikokimia kopi robusta, dengan waktu optimal antara 24 jam.

Kata kunci: cita rasa, ekstrak jeruk siam, fermentasi, fisikokimia, *green bean*.

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ABSTRACT

Argopuro robusta coffee is characterized by chocolate, bitter, and slightly mild acidic flavors. One approach to improving coffee quality is through fermentation. This study aimed to determine the effect of green bean fermentation duration using Citrus nobilis var. microcarpa extract on the sensory and physicochemical characteristics of robusta coffee. The research was conducted at the Agricultural Product Processing (PHP) and Bioscience Laboratories, Jember State Polytechnic, from April to June 2025. A Completely Randomized Design (CRD) was applied, consisting of six fermentation durations (0, 12, 24, 36, 48, and 60 hours) with four replications. Data were analyzed using the Kruskal–Wallis test (sensory parameters) and ANOVA (physicochemical parameters). When significant differences were observed, the Mann–Whitney test was applied for sensory parameters, and the Honest Significant Difference (HSD) test was used for physicochemical parameters. The observed parameters included sensory attributes (fragrance, aroma, taste, mouthfeel, acidity, aftertaste, bitterness, and overall) and physicochemical characteristics (yield, density, volume change, moisture content, ash content, and pH). The results showed that fermentation for 24 hours (P2) produced the highest values for taste (6.24), aroma (6.33), and acidity (6.11). Yield and density were also highest in P2, at 0.87% and 0.65 g/ml, respectively. Both shorter and longer fermentation durations decreased sensory quality. In conclusion, the fermentation duration of green beans with Citrus nobilis var. microcarpa extract significantly influenced the sensory and physicochemical quality of robusta coffee, with the optimal duration being 24 hours.

Keywords: *fermentation, green bean, orange siam extract, physicochemical characteristics, sensory quality*