

RINGKASAN

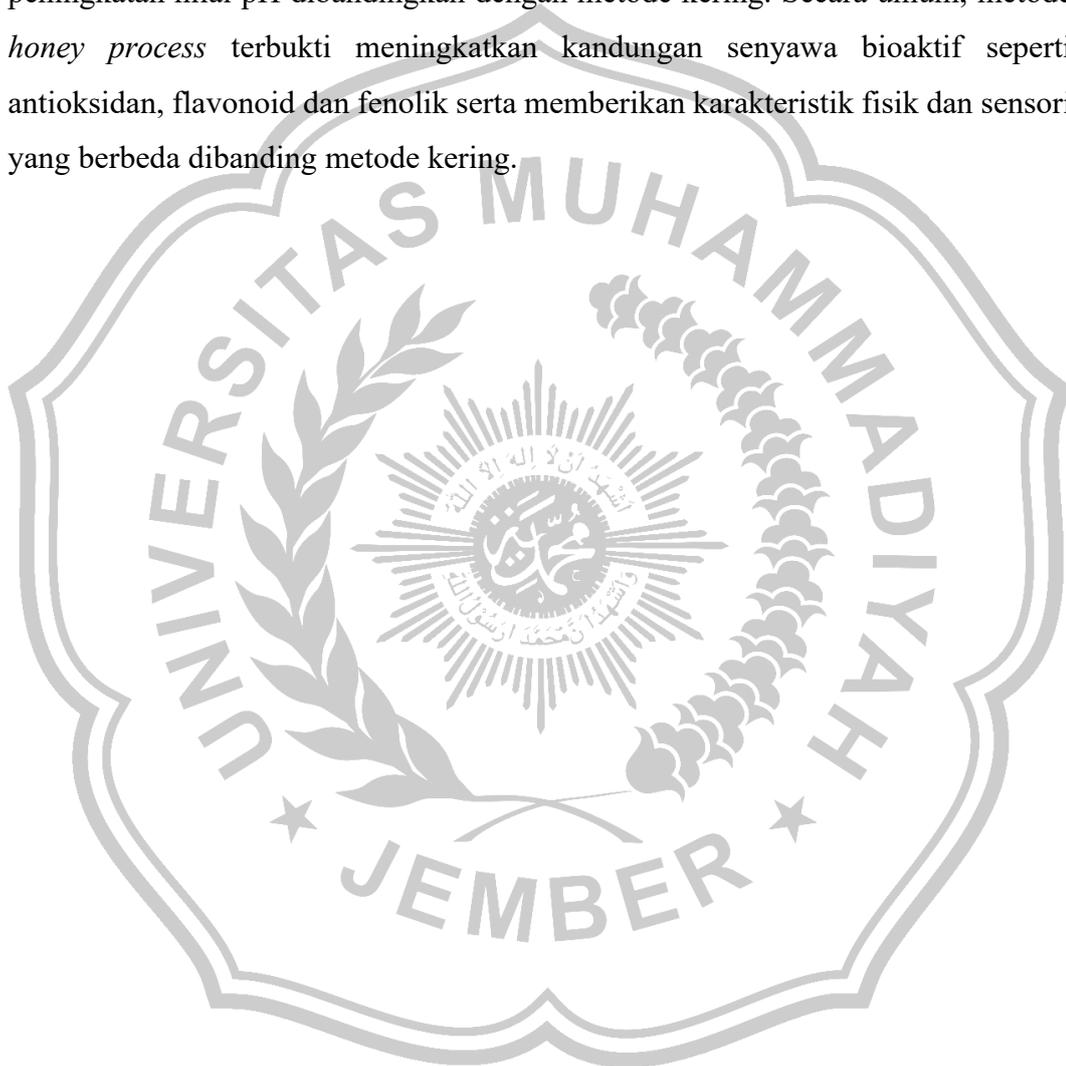
Muhammad Andrian Maulana, Program Studi Teknologi Industri Pertanian, Fakultas Pertanian, Universitas Muhammadiyah Jember, Maret 2026. “Analisis Mutu Fisik, Kimia dan Organoleptik Biji Kopi Robusta yang Diolah dengan Metode *Honey Process*. Dosen pembimbing utama dan Danu Indra Wardhana, S.TP., M.P. dan dosen pembimbing anggota Andika Putra Setiawan, S.ST., M.T.

Salah satu komoditas perkebunan unggulan yang memiliki kontribusi besar perekonomian Indonesia adalah kopi, khususnya kopi robusta (*Coffea canephora*). Komoditas ini berperan penting sebagai sumber devisa negara. Provinsi Jawa Timur, khususnya Kabupaten Jember merupakan salah satu sentra produksi kopi robusta terbesar ketiga dengan potensi pengembangan mutu yang masih sangat luas. Mutu kopi sangat dipengaruhi oleh metode pengolahan pascapanen. Salah satu yang berkembang adalah *honey process*, yang merupakan pengembangan dari metode kering dengan mempertahankan sebagian lendir (*mucilage*) pada biji kopi selama proses pengeringan. Metode ini mampu menghasilkan cita rasa yang kompleks serta meningkatkan kandungan senyawa bioaktif. Namun, penelitian mengenai pengaruh metode *honey* (*yellow*, *red* dan *black*) terhadap karakteristik fisik, kimia dan organoleptik kopi robusta masih terbatas.

Penelitian ini bertujuan untuk menganalisis pengaruh perbedaan metode pengolahan kering, *yellow honey*, *red honey* dan *black honey* terhadap mutu fisik, kimia dan organoleptik kopi robusta yang berasal dari Kecamatan Silo, Kabupaten Jember. Tahapan penelitian meliputi proses sortasi buah, pencucian, perlakuan pengolahan sesuai dengan metode masing-masing, yaitu pengeringan (50 hari untuk metode kering, 10 hari untuk metode *yellow honey*, 20 hari untuk *red honey*, dan 30 hari untuk metode *black honey*), selanjutnya biji kopi disangrai pada suhu 205°C selama 12 menit, digiling dan pengujian sampel. Parameter pengujian yang dianalisis meliputi uji fisik (rendemen, warna dan viskositas), uji kimia (kafein, antioksidan, flavonoid, fenolik, total gula dan pH), serta uji organoleptik (warna, aroma, rasa dan keseluruhan).

Hasil penelitian menunjukkan bahwa metode pengolahan berpengaruh terhadap mutu kopi robusta. Rendemen tertinggi diperoleh pada metode kering

(87%) sedangkan terendah pada *black honey* (78%). Antioksidan tertinggi terdapat pada metode *black honey* (88,95%). Kandungan flavonoid dan fenolik juga meningkat dengan nilai tertinggi pada *black honey* (60,40 mgQE/g flavonoid dan 169,55 mg GAE/g fenolik). Kadar kafein cenderung lebih rendah pada metode *honey* dibandingkan dengan metode kering. Total gula tertinggi diperoleh pada *yellow honey* (6,08%). Dari sisi pH, metode *honey* menunjukkan kecenderungan peningkatan nilai pH dibandingkan dengan metode kering. Secara umum, metode *honey process* terbukti meningkatkan kandungan senyawa bioaktif seperti antioksidan, flavonoid dan fenolik serta memberikan karakteristik fisik dan sensori yang berbeda dibanding metode kering.



SUMMARY

Muhammad Andrian Maulana, Agricultural Engineering Programme, Faculty of Agriculture, Muhammadiyah University of Jember, March 2026. “Analysis of the Physical, Chemical and Organoleptic Quality of Robusta Coffee Beans Processed Using the Honey process Method. Main supervisor: Danu Indra Wardhana, S.TP., M.P., and co-supervisor: Andika Putra Setiawan, S.ST., M.T.

One of the leading plantation commodities that contributes significantly to Indonesia's economy is coffee, particularly robusta coffee (*Coffea canephora*). This commodity plays an important role as a source of foreign exchange for the country. East Java Province, particularly Jember Regency, is one of the third largest production centres for robusta coffee with vast potential for quality improvement. Coffee quality is greatly influenced by post-harvest processing methods. One method that has gained traction is the honey process, which is an evolution of the dry method that retains some of the mucilage on the coffee beans during the drying process. This method can produce complex flavours and increase the content of bioactive compounds. However, research on the effects of the honey method (yellow, red, and black) on the physical, chemical, and organoleptic characteristics of Robusta coffee is still limited.

This study aims to analyse the effect of different dry processing methods yellow honey, red honey, and black honey on the physical, chemical, and organoleptic quality of Robusta coffee from Silo Subdistrict, Jember Regency. The research stages include fruit sorting, washing, processing treatment according to each method, namely drying (50 days for the dry method, 10 days for the yellow honey method, 20 days for the red honey method, and 30 days for the black honey method), followed by honey method), followed by roasting the coffee beans at 205°C for 12 minutes, grinding, and sample testing. The testing parameters analysed included physical tests (yield, colour and viscosity), chemical tests (caffeine, antioxidants, flavonoids, phenolics, total sugar and pH), and organoleptic tests (colour, aroma, taste and overall).

The results showed that the processing method affected the characteristics of Robusta coffee. The highest yield was obtained using the dry method (87%),

while the lowest was obtained using the black honey method (78%). The highest antioxidant content was found in the black honey method (88.95%). Flavonoid and phenolic content also increased, with the highest values found in black honey (60.40 mgQE/g flavonoids and 169.55 mg GAE/g phenolics). Caffeine levels tended to be lower in the honey method compared to the dry method. The highest total sugar content was obtained in the yellow honey method (6.08%). In terms of pH, the honey method showed a tendency to increase pH values compared to the dry method. In general, the honey process method was proven to increase the content of bioactive compounds such as antioxidants, flavonoids and phenolics and provide different physical and sensory characteristics compared to the dry method.

