

DAFTAR PUSTAKA

- Adzkiya, M. A. ., & Hidayat, A. . (2022). Uji Fitokimia, Kandungan Total Fenol dan Aktivitas Antioksidan Kopi Arabika (*Coffea arabica*) pada Tingkat Penyangraian Sama. *Wahana Informasi dan Alih Teknologi Pertanian*, 12(1), 101–112. <https://doi.org/10.29244/jstsv.12.1.101-112>
- Afriadi, Ernoviya, & Silfania, H. . (2023). Analisis Senyawa Kafein pada Bubuk Kopi Jenis Arabika di Kota Takengon Menggunakan Analisis Kualitatif dan Kuantitatif. *Journal of Pharmacy and Science*, 6(2), 176–183. <https://doi.org/10.36341/jops.v6i2.3371>
- Alam, I. N., Warkoyo, & Siskawardani, D. D. (2022). Karakteristik Tingkat Kematangan Buah Kopi Robusta (*Coffea canephora* a. Froehner) dan Buah Kopi Arabika (*Coffea arabica* Linnaeus) terhadap Mutu Cita Rasa Seduhan Kopi. *Food technology dan Halal Science*, 5(2), 169–185. <https://doi.org/10.22219/fths.v5i2.21925>
- Alves, G., Lobo, L. A., Domingues, R. M. C. P., Monteiro, M., & Perrone, D. (2021). *Bioaccessibility and Gut Metabolism of Free and Melanoidin-Bound Phenolic Compounds From Coffee and Bread*. *Frontiers in Nutrition*, 8(July), 1–12. <https://doi.org/10.3389/fnut.2021.708928>
- Alwi, A. L., Nuraisyah, A., Ulma, Z., Mastutik, L., & Kusumaningtias, N. R. (2023). Perbandingan Kadar Air Green Bean Dan Roast Bean Kopi Robusta Gunitir Jember Berdasarkan Metode Pengolahan Dan Level Roasting. *Gontor AGROTECH Science Journal*, 9(1), 82–88. <https://doi.org/10.21111/agrotech.v9i1.9900>
- Amrullah, H. U. S. (2022). Review : Studi Aktivitas Antioksidan dari beberapa Jenis Perlakuan Kopi. *Jurnal Ilmiah Multi Disiplin Indonesia*, 2(2), 474–480.
- Anasari, W., Styawan, A. A., Arrosyid, M., & Mustofa, C. H. (2024). Analisis Kadar Kafein Pada Biji Kopi Arabika (*Coffea arabica* L .) Varietas Lini S Dari Perkebunan Kopi Banaran Dengan Metode Titrasi Bebas Air. *CERATA Jurnal Ilmu Farmasi*, 15(1), 23–28.
- Avivi, S., & Buqori, D. (2020). Metabolomik Manfaatnya bagi

- Pemuliaan (R. Fahriza (ed.); 1 ed.). UPT Percetakan & Penerbitan Universitas Jember.
- Ayun, Q., Kurniawan, S., & Saputro, W. A. (2020). Perkembangan Konversi Lahan Pertanian Di Bagian Negara Agraris. *Vigor: Jurnal Ilmu Pertanian Tropika Dan Subtropika*, 5(2), 38–44. <https://doi.org/10.31002/vigor.v5i2.3040>
- Baggenstoss, J., Poisson, L., Kaegi, R., Perren, R., & Escher, F. (2008). *Roasting and Aroma Formation : Effect of Initial Moisture Content and Steam Treatment*. *Agricultural and Food Chemistry*, 56(14), 5847–5851.
- Banti, M., & Abraham, E. (2021). *Coffee Processing Methods, Coffee Quality and Related Environmental Issues*. *Journal of Food and Nutrition Sciences*, 9(6), 144. <https://doi.org/10.11648/j.jfns.20210906.12>
- Bastian, F., Hutabarat, O. S., Dirpan, A., Nainu, F., Harapan, H., Emran, T. Bin, & Simal-Gandara, J. (2021). *From plantation to cup: Changes in bioactive compounds during coffee processing*. *Foods*, 10(11), 1–27. <https://doi.org/10.3390/foods10112827>
- Clifford, M. N. (2000). *Chlorogenic acids and other cinnamates – nature, occurrence, dietary burden, absorption and metabolism*. *Journal of the Science of Food and Agriculture*, 80(7), 1033–1043. [https://doi.org/10.1002/\(sici\)1097-0010\(20000515\)80:7<1033::aid-jsfa595>3.3.co;2-k](https://doi.org/10.1002/(sici)1097-0010(20000515)80:7<1033::aid-jsfa595>3.3.co;2-k)
- Collazos-escobar, G. A., Hurtado-cortés, V., Bahamón-monje, A. F., & Gutiérrez-guzmán, N. (2025). *Mathematical modeling of water sorption isotherms in specialty coffee beans processed by wet and semidry postharvest methods*. *scientific reports*, 1–12.
- Cwikova, O., Komprda, T., Šottnikova, V., Svoboda, Z., Simonova, J., Slovacek, J., & Juzl, M. (2022). *Effects of Different Processing Methods of Coffee Arabica on*. *Foods*, 1–13. <https://doi.org/10.3390/foods11203295>
- De Bruyn, F., Zhang, S. J., Potakhos, V., Torres, J., Lambot, C., Moroni, V. A., Callanan, M., Sybesma, W., Weckx, S., De Vuyst, L., & Luc. (2017). *Exploring the Impacts of Postharvest Processing on the Microbiota and Metabolite Profiles during Green Coffee Bean Production*. *Applied and environmental microbiology*, 83(1), 1–16.

- <https://journals.asm.org/doi/epub/10.1128/AEM.02398-16>
- Dharmaputra, O. S., Ambarwati, S., Retnowati, I., & Nurfadila, N. (2021). *Assessment of the Quality of Arabica Coffee Beans From Three Processing Methods and Two Types of Packaging Materials*. *Biotropia*, 28(3), 193–203. <https://doi.org/10.11598/BTB.2021.28.3.1325>
- Duguma, H., & Chewaka, M. (2019). *Review on Coffee (Coffea arabica L .) Wet Processing more Focus in Ethiopia*. *Acta Scientific Agriculture*, 3(11), 11–15. <https://doi.org/10.31080/ASAG.2019.03.0676>
- Fiqhry, A. T., Nugraha, T., Santosa, B., & Ardiani, F. (2024). *Kajian Produksi Kopi Arabika (Coffea arabica) pada Berbagai Ketinggian Tempat di Kabupaten Temanggung (Study of Arabica Coffee [Coffea arabica] Production at Various Altitude in Temanggung Regency)*. *Jurnal Agro Industri Perkebunan*, 12(2), 81–90. <https://doi.org/10.25181/jaip.v12i2.3497>
- Geneti, D. (2019). *Review on Genetic, Environment and Their Interaction (G x E) for Stability of Coffee Quality*. *Journal of Biology, Agriculture and Healthcare*, 9(21). <https://doi.org/10.7176/jbah/9-21-04>
- Górecki, M., & Hallmann, E. (2020). *The antioxidant content of coffee and its in vitro activity as an effect of its production method and roasting and brewing time*. *Antioxidants*, 9(4). <https://doi.org/10.3390/antiox9040308>
- Handayani, A. M., Raharja, K. T., & Sudarmayasa, I. W. (2025). *Pengolahan Pasca Panen Kopi Arabika dengan Metode Kering (Honey Process) di PT . Sinar Mayang Lestari*. *Jurnal Ilmiah Inovasi*, 25(2), 111–115.
- Happyana, N., Pratiwi, A., & Hakim, E. H. (2021). *Metabolite Profiles of the Green Beans of Indonesian Arabica Coffee Varieties*. *International Journal of Food Science*, 2021. <https://doi.org/10.1155/2021/5782578>
- Hu, F., Bi, X., Fu, X., Li, Y., Li, G., Li, Y., Liu, D., Yang, Y., Shi, R., & Dong, W. (2023). *Comparative Metabolome Profiles and Antioxidant Potential of Four Coffea arabica L. Varieties Differing in Fruit Color*. *Diversity*, 15(6). <https://doi.org/10.3390/d15060724>
- Huang, D., Ou, B., & L. Prior, R. (2005). *The Chemistry behind*

- Antioxidant Capacity Assays. Agricultural and Food Chemistry*, 53(6), 1841–1856.
- International Coffee Organization. (2002). *Code of Practice Enhancement of coffee quality through prevention of mould formation*. 36(02).
- Isleib, T. G., Pattee, H. E., & Rice, P. W. (1997). *A Laboratory Colorimeter Method to Measure Pod Brightness in Virginia-Type Peanuts. USDA-ARS*, 81–84.
- Jeszka-Skowron, M., Sentkowska, A., Pyrzyńska, K., & De Peña, M. P. (2016). *Chlorogenic acids, caffeine content and antioxidant properties of green coffee extracts: influence of green coffee bean preparation. European Food Research and Technology*, 242(8), 1403–1409. <https://doi.org/10.1007/s00217-016-2643-y>
- Joët, T., Laffargue, A., Descroix, F., Douleau, S., Bertrand, B., Kochko, A. de, & Dussert, S. (2010). *Influence of environmental factors, wet processing and their interactions on the biochemical composition of green Arabica coffee beans. Food Chemistry*, 118(3), 693–701. <https://doi.org/10.1016/j.foodchem.2009.05.048>
- Kim, J.-S., Choi, J., Park, S.-E., Kwak, S., Cho, H., & Son, H.-S. (2025). *Factors influencing metabolite profiles in global Arabica green. Elsevier*, 208. <https://doi.org/10.1016/j.foodres.2025.116187>
- Kim, J., & Blair, N. E. (2023). *Biomarker heatmaps: visualization of complex biomarker data to detect storm-induced source changes in fluvial particulate organic carbon. Earth Science Informatics*, 16(3), 2915–2924. <https://doi.org/10.1007/s12145-023-01039-y>
- Knopp, S., Bytof, G., & Selmar, D. (2005). *Influence of processing on the content of sugars in green Arabica coffee beans. European Food Research and Technology*, 223(2), 195–201. <https://doi.org/10.1007/s00217-005-0172-1>
- Kulapichitr, F., Borompichaichartkul, C., Fang, M., Suppavorasatit, I., & Cadwallader, K. R. (2022). *Effect of post-harvest drying process on chlorogenic acids, antioxidant activities and CIE-Lab color of Thai Arabica green coffee beans. Food Chemistry*, 366. <https://doi.org/10.1016/j.foodchem.2021.130504>

- Kurniawan, M. F., Aminah, S., & Agusthini, T. L. (2024). *Physicochemical Analysis of Arabica Coffee Sigar Utang Varieties Based on Variations of Processing Methods (Fullywash, Honey, and Natural Process)*. *Jurnal Pangan dan Agroindustri*, 12(2), 79–87.
- Lee, J. E., Recker, M., Bowers, A. J., & Yuan, M. (2016). *Hierarchical cluster analysis heatmaps and pattern analysis: An approach for visualizing learning management system interaction data*. *Proceedings of the 9th International Conference on Educational Data Mining, EDM 2016*, 603–604.
- Lee, L. W., Cheong, M. W., Curran, P., Yu, B., & Liu, S. Q. (2015). *Coffee fermentation and flavor - An intricate and delicate relationship*. *Food Chemistry*, 185, 182–191. <https://doi.org/10.1016/j.foodchem.2015.03.124>
- Lestari, W., Listiawan, M. Y., Sofia, S., Lestari, W., Hasballah, K., Listiawan, M. Y., & Sofia, S. (2022). *Metabolite Signature of Fresh and Long-term Stored Coffee Pulp and Husk*. *Makara Journal of Science*, 26(3), 217–226. <https://doi.org/10.7454/mss.v26i3.1354>
- Listiaji, P., & Suparta, G. B. (2020). *Low-cost imaging spectrophotometer system for absorbance measurement*. *IOP Publishing*, 1567(4). <https://doi.org/10.1088/1742-6596/1567/4/042093>
- Maeda, H. A. (2019). *Evolutionary Diversification of Primary Metabolism and Its Contribution to Plant Chemical Diversity*. *Frontiers in Plant Science*, 10(July), 1–8. <https://doi.org/10.3389/fpls.2019.00881>
- McLellan, M. ., Lind, L. ., & Kime, R. . (1994). *Hue Angle Determinations and Statistical Analysis for Multiquadrant Hunter L,a,b Data*. Geneva.
- Muñoz-hoyos, L., & Stam, R. (2023). *Metabolomics in Plant Pathogen Defense: From Single Molecules to Large-Scale Analysis*. *Phytopathology*, 113, 760–770. <https://doi.org/10.1094/PHYTO-11-22-0415-FI>
- Mutiara, Rustam, A., & Nurindah. (2023). Cita rasa khas kopi Topidi melalui proses panen hingga metode pengolahan dry

- process dan full wash. *FILOGENI*, 3(1), 44–54. <https://doi.org/10.24252/filogeni.v3i1.20678>
- Nyamundanda, G., Brennan, L., & Gormley, I. C. (2010). *Probabilistic principal component analysis for metabolomic data*. *Biomed Central*, 11.
- Osorio-Pérez, V., Álvarez-Barreto, C. I., Matallana, L. G., Acuña, J. R., Echeverri, L. F., & Imbachí, L. C. (2022). *Effect of Prolonged Fermentations of Coffee Mucilage with Different Stages of Maturity on the Quality and Chemical Composition of the Bean*. *Fermentation*, 8(10). <https://doi.org/10.3390/fermentation8100519>
- Pasally, S., Mengga, G. S., Indriani, S., & Kristiani, K. (2022). Isolasi Protein Jewawut (*Setaria Italica* L) Dengan Metode Kjeldahl. *INSOLOGI*, 1(3), 244–251. <https://doi.org/10.55123/insologi.v1i3.426>
- Putri, R. E., & Andasuryani, A. (2017). Studi Mutu Briket Arang Dengan Bahan Baku Limbah Biomassa. *Jurnal Teknologi Pertanian Andalas*, 21(2), 143. <https://doi.org/10.25077/jtpa.21.2.143-151.2017>
- Rangga, K. K., & Pardani, N. (2024). Analisis Proses Pascapanen Kopi di Pusat Pelatihan Pertanian dan Pedesaan Swadaya (P4S) Kopi Gunung Ikamaja Kecamatan Sumberjaya Kabupaten Lampung Barat (Analysis of the Coffee Postharvest Process at the Self-Help Agricultural and Rural Training Center. *Jurnal Agro Industri Perkebunan*, 12(2), 117–128. <https://doi.org/10.25181/jaip.v12i2.3481>
- Rehman, R., & Ashraf, S. (2017). *Analysis of Caffeine Contents in Commercial Beverages and Tea Samples of Pakistan Using UV / Visible Spectrometry*. *Bulgarian Chemical Communications*, 49(4), 823–828.
- Salam, U., Ullah, S., Tang, Z. H., Elateeq, A. A., Khan, Y., Khan, J., Khan, A., & Ali, S. (2023). *Plant Metabolomics: An Overview of the Role of Primary and Secondary Metabolites against Different Environmental Stress Factors*. *Life*, 13(3), 1–25. <https://doi.org/10.3390/life13030706>
- Selmar, D., Kleinwachter, M., & Bytof, G. (2017). *Metabolic Responses of Coffee Beans during Processing and Their Impact on Coffee Flavor*. In H. E. Nurmi & M. P. J. Nurmi (Ed.), *Coffee: Chemistry, Quality and Health* (hal. 431–476).

- The Royal Society of Chemistry.
- SNI 01-2907-2008. (2008). Standar Nasional Indonesia Biji Kopi. *Badan Standardisasi Nasional*, 4.
- Standard, I. (2005). *Determination of Substances Characteristic of Green and Black Tea-Part 1: Content of Total Polyphenols in Tea-Colorimetric Method Using Folin-Ciocalteu Reagent*. *iTeh Standard*, 1.
- Syukri, D., Sari, F. I. P., & Rini. (2023). *Roasting conditions on metabolic profile of black honey arabica coffee (Coffea arabica)*. *IOP Conference Series*.
<https://doi.org/10.1088/1755-1315/1182/1/012048>
- Vale, A. da S., Pereira, C. M. T., De Dea Lindner, J., Rodrigues, L. R. S., Kadri, N. K. El, Pagnoncelli, M. G. B., Kaur Brar, S., Soccol, C. R., & Pereira, G. V. de M. (2024). *Exploring Microbial Influence on Flavor Development during Coffee Processing in Humid Subtropical Climate through Metagenetic–Metabolomics Analysis*. *Foods*, 13(12).
<https://doi.org/10.3390/foods13121871>
- Várady, M., Tauchen, J., Fraňková, A., Klouček, P., & Popelka, P. (2022). *Effect of method of processing specialty coffee beans (natural, washed, honey, fermentation, maceration) on bioactive and volatile compounds*. *ELSEVIER*, 172(November). <https://doi.org/10.1016/j.lwt.2022.114245>
- Wijaya, T., & Budiman, S. (2016). *Analisis Multivariat untuk Penelitian Manajemen* (B. Rahmat & B. Setyoseno (ed.); 1 ed.). Percetakan Pohon Cahaya.
- Wold, S., & Sjostrom, M. (2001). *PLS-regression : a basic tool of chemometrics*. *Elsevier*, 109–130.
- Worley, B., & Powers, R. (2015). *Multivariate Analysis in Metabolomics*. *HHS Public Access*, 1(1), 92–107.
<https://doi.org/10.2174/2213235X11301010092>.
- Yokawati, Y. E. A., & Wachjar, A. (2019). *Pengelolaan Panen dan Pascapanen Kopi Arabika (Coffea arabica L.) di Kebun Kalisat Jampit, Bondowoso, Jawa Timur*. *Buletin Agrohorti*, 7(3), 343–350. <https://doi.org/10.29244/agrob.v7i3.30471>
- Yudono, B. (2017). *Spektrometri* (A. A. Bama (ed.); 1 ed.). SIMETRI.
- Zhang, S. J., De Bruyn, F., Pothakos, V., Contreras, G. F., Cai, Z., Moccand, C., Weckx, S., & De Vuyst, L. (2019). *Influence of*

Various Processing Parameters on the Microbial Community Dynamics, Metabolomic Profiles, and Cup Quality During Wet Coffee Processing. Frontiers in Microbiology, 10(November), 1–24.

<https://doi.org/10.3389/fmicb.2019.02621>

Zhang, Z., Murtagh, F., Poucke, S. Van, Lin, S., & Lan, P. (2017). *Hierarchical cluster analysis in clinical research with heterogeneous study population: Highlighting its visualization with R. Annals of Translational Medicine, 5(4), 1–11.* <https://doi.org/10.21037/atm.2017.02.05>

Zuniyanto, R. (2018). Analisis Proses Pasca Panen Kopi di Kabupaten Batang terhadap Uji Cita Rasa dan Kualitas Kopi Standar Specialty Coffee Association America (SCAA). *RISTEK, 27–41.*

