

DAFTAR PUSTAKA

- Alkaltham, M.S., Salamatullah, A., Hayat, K., 2020. Determination of coffee fruit antioxidants cultivated in Saudi Arabia under different drying conditions. *J. Food Meas. Charact.* 14, 1306–1313. <https://doi.org/10.1007/s11694-020-00378-4>
- Alves, R.C., Rodrigues, F., Antónia Nunes, M., Vinha, A.F., Oliveira, M.B.P.P., 2017. State of the art in coffee processing by-products, in: *Handbook of Coffee Processing By-Products*. Elsevier, pp. 1–26. <https://doi.org/10.1016/B978-0-12-811290-8.00001-3>
- Anulika, N.P., Ignatius, E.O., Raymond, E.S., Osasere, O.-I., Hilda, A., 2016. The Chemistry Of Natural Product: Plant Secondary Metabolites 4.
- Arpi, N., Muzaifa, M., Sulaiman, M.I., Andini, R., Kesuma, S.I., 2021. Chemical Characteristics of Cascara, Coffee Cherry Tea, Made of Various Coffee Pulp Treatments. *IOP Conf. Ser. Earth Environ. Sci.* 709, 012030. <https://doi.org/10.1088/1755-1315/709/1/012030>
- Barbosa, M.D.S.G., Scholz, M.B.D.S., Kitzberger, C.S.G., Benassi, M.D.T., 2019. Correlation between the composition of green Arabica coffee beans and the sensory quality of coffee brews. *Food Chem.* 292, 275–280. <https://doi.org/10.1016/j.foodchem.2019.04.072>
- Bhaigyabati, T., Devi, P.G., Bag, G., 2014. Total Flavonoid Content and Antioxidant Activity of Aqueous Rhizome Extract of Three Hedychium Species of Manipur Valley. *Res. J. Pharm. Biol. Chem. Sci.*
- Blinová, L., Sirotiak, M., Bartošová, A., Soldán, M., 2017. Review: Utilization of Waste From Coffee Production. *Res. Pap. Fac. Mater. Sci. Technol. Slovak Univ. Technol.* 25, 91–101. <https://doi.org/10.1515/rput-2017-0011>
- Bonilla-Hermosa, V.A., Duarte, W.F., Schwan, R.F., 2014. Utilization of coffee by-products obtained from semi-washed process for production of value-added compounds. *Bioresour. Technol.* 166, 142–150. <https://doi.org/10.1016/j.biortech.2014.05.031>
- Bresciani, L., Calani, L., Bruni, R., Brighenti, F., Del Rio, D., 2014. Phenolic composition, caffeine content and antioxidant capacity of coffee silverskin. *Food Res. Int.* 61, 196–201. <https://doi.org/10.1016/j.foodres.2013.10.047>
- Cazalens, E., Komes, D., Vojvodić Cebin, A., Pudić, R., Šeremet, D., Natucci Pasquino, M., Mandura, A., 2021. The assesement of bioactive potential and sensory acceptability of coffee and its byproducts- cascara and silverskin. *Hrvat. Časopis Za Prehrambenu Tehnol. Biotechnol. Nutr.* 16, 35–40. <https://doi.org/10.31895/hcptbn.16.1-2.5>
- Chandra, S., Khan, S., Avula, B., Lata, H., Yang, M.H., ElSohly, M.A., Khan, I.A., 2014. Assessment of Total Phenolic and Flavonoid Content, Antioxidant Properties, and Yield of Aeroponically and Conventionally Grown Leafy Vegetables and Fruit Crops: A Comparative Study. *Evid. Based Complement. Alternat. Med.* 2014, 1–9. <https://doi.org/10.1155/2014/253875>
- Chen, C.-Y., Shih, C.-H., Lin, T.-C., Zheng, J.-H., Hsu, C.-C., Chen, K.-M., Lin, Y.-S., Wu, C.-T., 2021. Antioxidation and Tyrosinase Inhibitory Ability of

- Coffee Pulp Extract by Ethanol. J. Chem. 2021, 1–8.
<https://doi.org/10.1155/2021/8649618>
- Di Stefano, V., Buzzanca, C., Ruvutuso, F., Scuderi, D., Palazzolo, E., Gugliuzza, G., Tinebra, I., Farina, V., 2023. Chemical composition and anti-radical properties of coffee cherry cultivated in Mediterranean climate. Food Biosci. 56, 103349. <https://doi.org/10.1016/j.fbio.2023.103349>
- Dos Santos, É.M., De Macedo, L.M., Ataíde, J.A., Delafiori, J., De Oliveira Guarnieri, J.P., Rosa, P.C.P., Ruiz, A.L.T.G., Lancellotti, M., Jozala, A.F., Catharino, R.R., Camargo, G.A., Paiva-Santos, A.C., Mazzola, P.G., 2024. Antioxidant, antimicrobial and healing properties of an extract from coffee pulp for the development of a phytocosmetic. Sci. Rep. 14, 4453. <https://doi.org/10.1038/s41598-024-54797-0>
- Duangjai, A., Suphrom, N., Wungrath, J., Ontawong, A., Nuengchamnong, N., Yosboonruang, A., 2016. Comparison of antioxidant, antimicrobial activities and chemical profiles of three coffee (*Coffea arabica* L.) pulp aqueous extracts. Integr. Med. Res. 5, 324–331. <https://doi.org/10.1016/j.imr.2016.09.001>
- Esquivel, P., Jiménez, V.M., 2012. Functional properties of coffee and coffee by-products. Food Res. Int. 46, 488–495. <https://doi.org/10.1016/j.foodres.2011.05.028>
- Geremu, M., Tola, Y.B., Sualeh, A., 2016. Extraction and determination of total polyphenols and antioxidant capacity of red coffee (*Coffea arabica* L.) pulp of wet processing plants. Chem. Biol. Technol. Agric. 3, 25. <https://doi.org/10.1186/s40538-016-0077-1>
- Greenhalgh, T., Thorne, S., Malterud, K., 2018. Time to challenge the spurious hierarchy of systematic over narrative reviews? Eur. J. Clin. Invest. 48, e12931. <https://doi.org/10.1111/eci.12931>
- Gupta, S., Apte, K.G., 2018. Evaluation of phytochemical, antioxidant and cytotoxic potential of *Sesbania grandiflora* Linn. J. Phytopharm. 7, 191–198. <https://doi.org/10.31254/phyto.2018.7215>
- Habtemariam, S., 2019. Chemical and pharmacological evidences for coffee as a modulator of type 2 diabetes and metabolic syndrome, in: Medicinal Foods as Potential Therapies for Type-2 Diabetes and Associated Diseases. Elsevier, pp. 793–838. <https://doi.org/10.1016/B978-0-08-102922-0.00021-3>
- Heeger, A., Kosińska-Cagnazzo, A., Cantergiani, E., Andlauer, W., 2017. Bioactives of coffee cherry pulp and its utilisation for production of Cascara beverage. Food Chem. 221, 969–975. <https://doi.org/10.1016/j.foodchem.2016.11.067>
- ICO, 2023. Coffee Repost and Outlook (CRO). International Coffee Organisation, London.
- Lestari, W., Hasballah, K., Listiawan, M.Y., Sofia, S., 2023a. Antioxidant and phytometabolite profiles of ethanolic extract from the cascara pulp of *Coffea arabica* collected from Gayo Highland: A study for potential anti-photoaging agent [version 2; peer review: 2 approved].
- Lestari, W., Hasballah, K., Listiawan, M.Y., Sofia, S., 2023b. Antioxidant Activity

- and Compound Analysis Using Various Types of Solvents on Cascara Pulp Arabica Gayo Coffee to Treat Skin Aging. *Int. J. Adv. Sci. Eng. Inf. Technol.* 13, 530–535. <https://doi.org/10.18517/ijaseit.13.2.17449>
- Lestari, W., Hasballah, K., Listiawan, M.Y., Sofia, S., 2022a. Coffee by-products as the source of antioxidants: a systematic review. *F1000Research* 11, 220. <https://doi.org/10.12688/f1000research.107811.1>
- Lestari, W., Hasballah, K., Listiawan, M.Y., Sofia, S., 2022b. Metabolite Signature of Fresh and Long-term Stored Coffee Pulp and Husk. *Makara J. Sci.* 26. <https://doi.org/10.7454/mss.v26i3.1354>
- Lobo, V., Patil, A., Phatak, A., Chandra, N., 2010. Free radicals, antioxidants and functional foods: Impact on human health. *Pharmacogn. Rev.* 4, 118. <https://doi.org/10.4103/0973-7847.70902>
- Machado, M., Espírito Santo, L., Machado, S., Lobo, J.C., Costa, A.S.G., Oliveira, M.B.P.P., Ferreira, H., Alves, R.C., 2023. Bioactive Potential and Chemical Composition of Coffee By-Products: From Pulp to Silverskin. *Foods* 12, 2354. <https://doi.org/10.3390/foods12122354>
- Maimulyanti, A., Prihadi, A.R., 2017. Chemical characterization and antioxidant activity of a new potential functional ingredient of coffee silver skin extracts. *Int. J. ChemTech Res.*
- Makiso, M.U., Tola, Y.B., Ogah, O., Endale, F.L., 2023. Bioactive compounds in coffee and their role in lowering the risk of major public health consequences: A review. *Food Sci. Nutr.* fsn3.3848. <https://doi.org/10.1002/fsn3.3848>
- Martinez-Saez, N., Ullate, M., Martin-Cabrejas, M.A., Martorell, P., Genovés, S., Ramon, D., Del Castillo, M.D., 2014. A novel antioxidant beverage for body weight control based on coffee silverskin. *Food Chem.* 150, 227–234. <https://doi.org/10.1016/j.foodchem.2013.10.100>
- Munteanu, I.G., Apetrei, C., 2021. Analytical Methods Used in Determining Antioxidant Activity: A Review. *Int. J. Mol. Sci.* 22, 3380. <https://doi.org/10.3390/ijms22073380>
- Murthy, P.S., Naidu, M.M., 2012. Sustainable management of coffee industry by-products and value addition—A review. *Resour. Conserv. Recycl.* 66, 45–58. <https://doi.org/10.1016/j.resconrec.2012.06.005>
- Neves, J.V.G.D., Borges, M.V., Silva, D.D.M., Leite, C.X.D.S., Santos, M.R.C., Lima, N.G.B.D., Lannes, S.C.D.S., Silva, M.V.D., 2019. Total phenolic content and primary antioxidant capacity of aqueous extracts of coffee husk: chemical evaluation and beverage development. *Food Sci. Technol.* 39, 348–353. <https://doi.org/10.1590/fst.36018>
- Nzekoue, F.K., Angeloni, S., Navarini, L., Angeloni, C., Freschi, M., Hrelia, S., Vitali, L.A., Sagratini, G., Vittori, S., Caprioli, G., 2020. Coffee silverskin extracts: Quantification of 30 bioactive compounds by a new HPLC-MS/MS method and evaluation of their antioxidant and antibacterial activities. *Food Res. Int.* 133, 109128. <https://doi.org/10.1016/j.foodres.2020.109128>
- Olugbami, J.O., Gbadegesin, M.A., Odunola, O.A., 2014. In vitro evaluation of the antioxidant potential, phenolic and flavonoid contents of the stem bark

- ethanol extract of *Anogeissus leiocarpus*. *Afr. J. Med. Med. Sci.* 43, 101–109.
- Pandey, A., Soccol, C.R., Nigam, P., Brand, D., Mohan, R., Roussos, S., 2000. Biotechnological potential of coffee pulp and coffee husk for bioprocesses. *Biochem. Eng. J.* 6, 153–162. [https://doi.org/10.1016/S1369-703X\(00\)00084-X](https://doi.org/10.1016/S1369-703X(00)00084-X)
- Prandi, B., Ferri, M., Monari, S., Zurlini, C., Cigognini, I., Verstringe, S., Schaller, D., Walter, M., Navarini, L., Tassoni, A., Sforza, S., Tedeschi, T., 2021. Extraction and Chemical Characterization of Functional Phenols and Proteins from Coffee (*Coffea arabica*) By-Products. *Biomolecules* 11, 1571. <https://doi.org/10.3390/biom11111571>
- Rahmanulloh, A., 2023. Indonesia: Coffee Annual (No. ID2023- 0012). United States Department of Agriculture: Foreign Agriculture Service, Jakarta, Indonesia.
- Ramirez-Coronel, M.A., Marnet, N., Kolli, V.S.K., Roussos, S., Guyot, S., Augur, C., 2004. Characterization and Estimation of Proanthocyanidins and Other Phenolics in Coffee Pulp (*Coffea arabica*) by Thiolytic–High-Performance Liquid Chromatography. *J. Agric. Food Chem.* 52, 1344–1349. <https://doi.org/10.1021/jf035208t>
- Rodrigues, F., Palmeira-de-Oliveira, A., Das Neves, J., Sarmiento, B., Amaral, M.H., Oliveira, M.B.P.P., 2015. Coffee silverskin: A possible valuable cosmetic ingredient. *Pharm. Biol.* 53, 386–394. <https://doi.org/10.3109/13880209.2014.922589>
- Rohaya, S., Anwar, S.H., Amhar, A.B., Sutriana, A., Muzaifa, M., 2023. Antioxidant activity and physicochemical composition of coffee pulp obtained from three coffee varieties in Aceh, Indonesia. *IOP Conf. Ser. Earth Environ. Sci.* 1182, 012063. <https://doi.org/10.1088/1755-1315/1182/1/012063>
- Sadeer, N.B., Montesano, D., Albrizio, S., Zengin, G., Mahomoodally, M.F., 2020. The Versatility of Antioxidant Assays in Food Science and Safety—Chemistry, Applications, Strengths, and Limitations. *Antioxidants* 9, 709. <https://doi.org/10.3390/antiox9080709>
- Santos, É.M.D., Macedo, L.M.D., Tundisi, L.L., Ataíde, J.A., Camargo, G.A., Alves, R.C., Oliveira, M.B.P.P., Mazzola, P.G., 2021. Coffee by-products in topical formulations: A review. *Trends Food Sci. Technol.* 111, 280–291. <https://doi.org/10.1016/j.tifs.2021.02.064>
- Saptarini, N.M., Pratiwi, R., Maisyarah, I.T., 2022. COLORIMETRIC METHOD FOR TOTAL PHENOLIC AND FLAVONOID CONTENT DETERMINATION OF FIG (*Ficus carica* L.) LEAVES EXTRACT FROM WEST JAVA, INDONESIA. *Rasayan J. Chem.* 15, 6000–605. <https://doi.org/10.31788/RJC.2022.1516670>
- Sholichah, E., Apriani, R., Desnilasari, D., Karim, M.A., 2019. PRODUK SAMPING KULIT KOPI ARABIKA DAN ROBUSTA SEBAGAI SUMBER POLIFENOL UNTUK ANTIOKSIDAN DAN ANTIBAKTERI. *J. Ind. Has. Perkeb.*
- Sukhera, J., 2022. Narrative Reviews: Flexible, Rigorous, and Practical. *J. Grad.*

- Med. Educ. 14, 414–417. <https://doi.org/10.4300/JGME-D-22-00480.1>
- Thenepalli, T., Ramakrishna, C., Ahn, J.W., 2017. Environmental Effect of the Coffee Waste and Anti-Microbial Property of Oyster Shell Waste Treatment. J. Energy Eng. 26, 39–49. <https://doi.org/10.5855/ENERGY.2017.26.2.097>
- Tuong, W., Walker, L., Sivamani, R.K., 2015. Polyphenols as novel treatment options for dermatological diseases: A systematic review of clinical trials. J. Dermatol. Treat. 26, 381–388. <https://doi.org/10.3109/09546634.2014.991675>