



DAFTAR PUSTAKA

- Abubakar, A., & Haque, M. (2020). Preparation of medicinal plants: Basic extraction and fractionation procedures for experimental purposes. *Journal of Pharmacy And Bioallied Sciences*, 12(1), 1. https://doi.org/10.4103/jpbs.JPBS_175_19
- Al-waili, N. S. (2004). Comparison with Dextrose and Sucrose. *Journal of Medicinal Food*, 7(1), 100–107. All Papers/A/Al-waili 2004 - Comparison with Dextrose and Sucrose.pdf
- Alzahrani, H. A., Boukraa, L., Bellik, Y., Abdellah, F., Bakhotmah, B. A., Kolayli, S., & Sahin, H. (2012). Evaluation of the antioxidant activity of three varieties of honey from different botanical and geographical origins. *Global Journal of Health Science*, 4(6), 191–196. <https://doi.org/10.5539/gjhs.v4n6p191>
- Anonim. (2019). *HerbaSehat*. <https://www.herbbasehat.id/>
- Anonim. (2024). *Comvita*. <https://www.comvita.com/>
- Badan Pengawas Obat dan Makanan. (2022). *Peraturan Badan Pengawas Obat dan Makanan Nomor 19 Tahun 2022 Tentang Pedoman Klaim Suplemen Kesehatan*.
- Badan Standarisasi Nasional. (2008). Standar Nasional Indonesia-Kembang Gula. *Kembang Gula-Bagian 2:Lunak*, 1.
- Baliyan, S., Mukherjee, R., Priyadarshini, A., Vibhuti, A., Gupta, A., Pandey, R. P., & Chang, C. M. (2022). Determination of Antioxidants by DPPH Radical Scavenging Activity and Quantitative Phytochemical Analysis of *Ficus religiosa*. *Molecules*, 27(4). <https://doi.org/10.3390/molecules27041326>
- Becerril-sánchez, A. L., Quintero-salazar, B., Dublán-garcía, O., & Escalona-buendía, H. B. (2021). Phenolic compounds in honey and their relationship with antioxidant activity, botanical origin, and color. *Antioxidants*, 10(11), 1–23. <https://doi.org/10.3390/antiox10111700>
- Cappa, C., Lavelli, V., & Mariotti, M. (2015). Fruit candies enriched with grape skin powders: Physicochemical properties. *Lwt*, 62(1), 569–575. <https://doi.org/10.1016/j.lwt.2014.07.039>
- Carrera-Lanestosa, A., Moguel-Ordóñez, Y., & Segura-Campos, M. (2017). Stevia rebaudiana Bertoni: A Natural Alternative for Treating Diseases Associated with Metabolic Syndrome. *Journal of Medicinal Food*, 20(10), 933–943. <https://doi.org/10.1089/jmf.2016.0171>
- Cedeño-Pinos, C., Martínez-Tomé, M., Murcia, M. A., Jordán, M. J., & Bañón, S. (2020). Assessment of rosemary (*Rosmarinus officinalis* L.) extract as antioxidant in jelly candies made with fructan fibres and Stevia. *Antioxidants*, 9(12), 1–16. <https://doi.org/10.3390/antiox9121289>
- Cheung, P. C. K. (2015). *Handbook of Food Chemistry* (P. C. K. Cheung & B. M. Mehta (eds.)). Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-642-6>



36605-5

- Çoban, B., Bilgin, B., Yurt, B., Kopuk, B., Atik, D. S., & Palabiyik, I. (2021). Utilization of the barberry extract in the confectionery products. *Lwt*, 145(March). <https://doi.org/10.1016/j.lwt.2021.111362>
- da Silva, R. A., Dihl, R. R., e Santos, D. N., de Abreu, B. R. R., de Lima, A., de Andrade, H. H. R., & Lehmann, M. (2013). Evaluation of antioxidant and mutagenic activities of honey-sweetened cashew apple nectar. *Food and Chemical Toxicology*, 62, 61–67. <https://doi.org/10.1016/j.fct.2013.08.026>
- Das, L., Bhaumik, E., Raychaudhuri, U., & Chakraborty, R. (2012). Role of nutraceuticals in human health. *Journal of Food Science and Technology*, 49(2), 173–183. <https://doi.org/10.1007/s13197-011-0269-4>
- Depkes RI. (2017). *Farmakope Herbal Indonesia Edisi II*.
- Depkes RI. (2020). *Farmakope Indonesia Edisi VI*. Departemen Kesehatan Republik Indonesia.
- Dinakaran, S. K., Sujiya, B., & Avasarala, H. (2018). Profiling and determination of phenolic compounds in Indian marketed hepatoprotective polyherbal formulations and their comparative evaluation. *Journal of Ayurveda and Integrative Medicine*, 9(1), 3–12. <https://doi.org/10.1016/j.jaim.2016.12.006>
- Dirar, A. I., Alsaadi, D. H. M., Wada, M., Mohamed, M. A., Watanabe, T., & Devkota, H. P. (2019). Effects of extraction solvents on total phenolic and flavonoid contents and biological activities of extracts from Sudanese medicinal plants. *South African Journal of Botany*, 120, 261–267. <https://doi.org/10.1016/j.sajb.2018.07.003>
- FDA. (2023). *Aspartame and Other Sweeteners in Food*. Food Adictive and Petition. <https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food>
- Fried, B., & Sherma, J. (1999). *Thin Layer Chromatography Fourth Edition, Revised and Expanded* (Fourth Edi).
- Ge, H., Wu, Y., Woshnak, L. L., & Mitmesser, S. H. (2021). Effects of hydrocolloids, acids and nutrients on gelatin network in gummies. *Food Hydrocolloids*, 113(November 2020), 106549. <https://doi.org/10.1016/j.foodhyd.2020.106549>
- Gok, S., Toker, O. S., Palabiyik, I., & Konar, N. (2020). Usage possibility of mannitol and soluble wheat fiber in low calorie gummy candies. *Lwt*, 128(April), 109531. <https://doi.org/10.1016/j.lwt.2020.109531>
- Gośliński, M., Nowak, D., & Kłębukowska, L. (2020). Antioxidant properties and antimicrobial activity of manuka honey versus Polish honeys. *Journal of Food Science and Technology*, 57(4), 1269–1277. <https://doi.org/10.1007/s13197-019-04159-w>
- He, J., Wu, X., Kuang, Y., Wang, T., Bi, K., & Li, Q. (2016). Quality assessment of *Chrysanthemum indicum* Flower by simultaneous quantification of six major ingredients using a single reference standard combined with HPLC fingerprint analysis. *Asian Journal of Pharmaceutical Sciences*, 11(2), 265–



272. <https://doi.org/10.1016/j.ajps.2015.08.010>
- Hernandez, E., Moore, A. M., Rollins, B. Y., Tovar, A., & Savage, J. S. (2023). Sorry Parents, Children Consume High Amounts of Candy before and after a Meal: Within-Person Comparisons of Children's Candy Intake and Associations with Temperament and Appetite. *Children*, 10(1). <https://doi.org/10.3390/children10010052>
- Immaculate, T. M., P., S., & H., M. C. (2020). Isolation and Purification of Apigenin From Allium Fistulosum. *International Journal of Current Pharmaceutical Research*, 12(5), 67–71. <https://doi.org/10.22159/ijcpr.2020v12i5.39769>
- ITIS. (2023). *Chrysanthemum indicum L.* <https://www.gbif.org/species/102232136>
- Jahangir Chughtai, M. F., Pasha, I., Zahoor, T., Khalid, A., Ahsan, S., Wu, Z., Nadeem, M., Mehmood, T., Amir, R. M., Yasmin, I., Liaqat, A., & Tanweer, S. (2020). Nutritional and therapeutic perspectives of Stevia rebaudiana as emerging sweetener; a way forward for sweetener industry. *CYTA - Journal of Food*, 18(1), 164–177. <https://doi.org/10.1080/19476337.2020.1721562>
- Jariyah, Winarti, S., Sarofo, U., & Subagio, M. R. (2022). Study of the Influence of Stevia and Fructose to the Physicochemical Characteristics of Mocaf-pedada Biscuits. *Proceedings of the 6th International Conference of Food, Agriculture, and Natural Resource (IC-FANRES 2021)*, 16, 337–341. <https://doi.org/10.2991/absr.k.220101.045>
- Jiang, S., Wang, M., Jiang, Z., Zafar, S., Xie, Q., Yang, Y., Liu, Y., Yuan, H., Jian, Y., & Wang, W. (2021). Chemistry and pharmacological activity of sesquiterpenoids from the chrysanthemum genus. *Molecules*, 26(10). <https://doi.org/10.3390/molecules26103038>
- Kowalska, T., & Sajewicz, M. (2022). Thin-Layer Chromatography (TLC) in the Screening of Botanicals—Its Versatile Potential and Selected Applications. *Molecules*, 27(19), 6607. <https://doi.org/10.3390/molecules27196607>
- Labib, M., Niam, Q., Amin, R. S., & Utami, N. (2022). Proceedings of the International Conference on Sustainable Innovation on Health Sciences and Nursing (ICOSI-HSN 2022). In *Proceedings of the International Conference on Sustainable Innovation on Health Sciences and Nursing (ICOSI-HSN 2022)*. Atlantis Press International BV. <https://doi.org/10.2991/978-94-6463-070-1>
- Lin, Y. S., Huang, W. Y., Ho, P. Y., Hu, S. Y., Lin, Y. Y., Chen, C. Y., Chang, M. Y., & Huang, S. L. (2020). Effects of storage time and temperature on antioxidants in juice from *Momordica charantia* L. And *Momordica charantia* L. var. abbreviata ser. *Molecules*, 25(16). <https://doi.org/10.3390/molecules25163614>
- Martemucci, G., Costagliola, C., Mariano, M., D'andrea, L., Napolitano, P., & D'Alessandro, A. G. (2022). Free Radical Properties, Source and Targets, Antioxidant Consumption and Health. *Oxygen*, 2(2), 48–78. <https://doi.org/10.3390/oxygen2020006>



- Mayasari, D., Murti, Y. B., Sudarsono, S., & Pratiwi, S. U. T. (2021). Phytochemical, antioxidant and antibacterial evaluation of *Melastoma malabathricum L.*: An indonesian traditional medicinal plant. *Tropical Journal of Natural Product Research*, 5(5), 819–824. <https://doi.org/10.26538/tjnpr/v5i5.5>
- Melia, I., Setiawan, S. D., & Pangestu, R. D. (2023). Sensory Properties of Dadih Jelly Candy with The Addition of *Clitoria ternatea* Flower Extract. *JNS: Journal of Nutrition Science Juliayarsi*, 4(1), 17–21. <https://doi.org/10.35308/jns.v4i1.7490>
- Miao, L., Zhang, H., Yang, L., Chen, L., Xie, Y., & Xiao, J. (2022). Flavonoids. In *Antioxidants Effects in Health* (pp. 353–374). Elsevier. <https://doi.org/10.1016/B978-0-12-819096-8.00048-3>
- Murakami, K., & Yoshino, M. (2022). Prooxidant activity of aminophenol compounds: copper-dependent generation of reactive oxygen species. *BioMetals*, 35(2), 329–334. <https://doi.org/10.1007/s10534-022-00367-8>
- Mutlu, C., Tontul, S. A., & Erbaş, M. (2018). Production of a minimally processed jelly candy for children using honey instead of sugar. *Lwt*, 93(February 2017), 499–505. <https://doi.org/10.1016/j.lwt.2018.03.064>
- Nikolova, M., & Dzhurmanski, A. (2009). Evaluation of free radical scavenging capacity of extracts from cultivated plants. *Biotechnology and Biotechnological Equipment*, 23, 109–111. <https://doi.org/10.1080/13102818.2009.10818377>
- Nishiyama-Hortense, Y. P. de O., Rossi, M. J. de P., Shimizu-Marin, V. D., Janzanti, N. S., Gómez-Alonso, S., Da-Silva, R., & Lago-Vanzela, E. S. (2022). Jelly candy enriched with BRS Violeta grape juice: Anthocyanin retention and sensory evaluation. *Future Foods*, 6, 100179. <https://doi.org/https://doi.org/10.1016/j.fufo.2022.100179>
- Origins, G. (2021). *The Use of UV Spectroscopy and SIMCA for the Authentication of Indonesian Honeys According to Botanical , Entomological*.
- Pentoś, K., Łuczycka, D., Oszmiański, J., Lachowicz, S., & Pasternak, G. (2020). Polish honey as a source of antioxidants—a comparison with Manuka honey. *Journal of Apicultural Research*, 59(5), 939–945. <https://doi.org/10.1080/00218839.2020.1723837>
- Peteliuk, V., Rybchuk, L., Bayliak, M., Storey, K. B., & Lushchak, O. (2021). Natural sweetener stevia rebaudiana: Functionalities, health benefits and potential risks. *EXCLI Journal*, 20, 1412–1430. <https://doi.org/10.17179/excli2021-4211>
- Pluta, R., Januszewski, S., & Czuczwar, S. J. (2021). *Myricetin as a Promising Molecule for the Treatment of*.
- Puspitasari, A. D., & Pramono, S. (2015). COMPARISON OF METHODS OF PRODUCING BEE PROPOLIS PURIFIED EXTRACT BASED ON TOTAL FLAVONOID CONTENT USING RUTIN AS STANDARD PERBANDINGAN METODE PEMBUATAN EKSTRAK TERPURIFIKASI



BEE PROPOLIS DARI LEBAH MADU (*Apis mellifera*) BERDASARKAN KADAR FLAVONOID TOTAL D. *Traditional Medicine Journal*, 20(2), 2015.

- Rahardjo, M., Sihombing, M., & Anggraeni, M. K. (2020). Color development and antioxidant activity in honey caramel. *IOP Conference Series: Earth and Environmental Science*, 443(1), 1–9. <https://doi.org/10.1088/1755-1315/443/1/012041>
- Rahman, M. M., Gan, S. H., & Khalil, I. (2014). *Neurological Effects of Honey : Current and Future Prospects. 2014*.
- Rahmasari, F. S. (2023). *Optimasi Formula dan Uji Aktivitas Antioksidan Sediaan Gummy Candy Ekstrak Bunga Krisan (Chrysanthemum indicum L.) dengan Variasi Komposisi Gelling Agent Gelatin-Pektin*. Gadjah Mada University.
- Renaldi, G., Junsara, K., Jannu, T., Sirinupong, N., & Samakradhamrongthai, R. S. (2022). Physicochemical, textural, and sensory qualities of pectin/gelatin gummy jelly incorporated with *Garcinia atroviridis* and its consumer acceptability. *International Journal of Gastronomy and Food Science*, 28. <https://doi.org/10.1016/j.ijgfs.2022.100505>
- Rivera, P. H. (2014). Consumption of non-nutritive sweeteners and nutritional status in 10-16 year old students. *Archivos Argentinos de Pediatría*, 112(3), 207–214. <https://doi.org/10.5546/aap.2014.eng.207>
- Rowe, R. C., Sheskey, P. J., & Quinn, M. E. (2009). *Handbook of Pharmaceutical Excipients*. Pharmaceutical Press and American Pharmacists Association.
- Samakradhamrongthai, R. S., & Jannu, T. (2021). Effect of stevia, xylitol, and corn syrup in the development of velvet tamarind (*Dialium indum L.*) chewy candy. *Food Chemistry*, 352, 129353. <https://doi.org/https://doi.org/10.1016/j.foodchem.2021.129353>
- Saptarini, N. M., Herawati, I. E., & Permatasari, U. Y. (2016). Total flavonoids content in acidified extract of flowers and leaves of gardenia (*Gardenia Jasminoides Ellis*). *Asian Journal of Pharmaceutical and Clinical Research*, 9(1 ml), 213–215.
- Saravanan, M., Mostafavi, E., Vincent, S., Negash, H., Andavar, R., Perumal, V., Chandra, N., Narayanasamy, S., Kalimuthu, K., & Barabadi, H. (2021). Na R F. *Microbial Pathogenesis*, 104908. <https://doi.org/10.1016/j.heliyon.2023.e20232>
- Schramm, D. D., Karim, M., Schrader, H. R., Holt, R. R., Cardetti, M., & Keen, C. L. (2003). Honey with high levels of antioxidants can provide protection to healthy human subjects. *Journal of Agricultural and Food Chemistry*, 51(6), 1732–1735. <https://doi.org/10.1021/jf025928k>
- Sharifi-Rad, M., Anil Kumar, N. V., Zucca, P., Varoni, E. M., Dini, L., Panzarini, E., Rajkovic, J., Tsouh Fokou, P. V., Azzini, E., Peluso, I., Prakash Mishra, A., Nigam, M., El Rayess, Y., Beyrouthy, M. El, Polito, L., Iriti, M., Martins, N., Martorell, M., Docea, A. O., ... Sharifi-Rad, J. (2020). Lifestyle, Oxidative Stress, and Antioxidants: Back and Forth in the Pathophysiology of Chronic



- Diseases. *Frontiers in Physiology*, 11(July), 1–21. <https://doi.org/10.3389/fphys.2020.00694>
- Sukweenadhi, J., Yunita, O., Setiawan, F., Kartini, Siagian, M. T., Danduru, A. P., & Avanti, C. (2020). Antioxidant activity screening of seven Indonesian herbal extract. *Biodiversitas*, 21(5), 2062–2067. <https://doi.org/10.13057/biodiv/d210532>
- Sumarlin, L. O., Muawanah, A., & Wardhani, P. (2014). Aktivitas Antikanker dan Antioksidan Madu di Pasaran Lokal Indonesia (Anticancer and Antioxidant Activity of Honey in the Market Local Indonesia). *Jurnal Ilmu Pertanian Indonesia (JIPI)*, Desember, 19(3), 136–144.
- Sutanto, R. A., & Muljaningsih, S. (2022). Analisis Faktor-Faktor yang Mempengaruhi Impor Gula di Indonesia. *KINERJA: Jurnal Ekonomi Dan Manajemen*, 19(1), 29–36. <https://doi.org/10.29264/jkin.v19i1.10880>
- Tarahi, M., Mohamadzade Fakhr-davood, M., Ghaedrahati, S., Roshanak, S., & Shahidi, F. (2023). Physicochemical and Sensory Properties of Vegan Gummy Candies Enriched with High-Fiber Jaban Watermelon Exocarp Powder. *Foods*, 12(7). <https://doi.org/10.3390/foods12071478>
- U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2020). Dietary Guidelines for Americans, 2020–2025. In *Workplace Health and Safety: Vol. 9th editio*. <https://doi.org/10.1177/21650799211026980>
- Vaney, N., Khaliq, F., & Anjana, Y. (2015). *Original Article Event-Related Potentials Study in Children with Borderline Intellectual Functioning*. 37(1). <https://doi.org/10.4103/0253-7176.150820>
- Wang, C., Ouyang, S., Zhu, X., Jiang, Y., & Lu, Z. (2023). Myricetin suppresses traumatic brain injury - induced inflammatory response via EGFR / AKT / STAT pathway. *Scientific Reports*, 1–17. <https://doi.org/10.1038/s41598-023-50144-x>
- WHO. (2023). *Steviol Glycosides*. <https://apps.who.int/food-additives-contaminants-jecfa-database/Home/Chemical/267>
- Wikipedia. (2023). *Chrysanthemum indicum*. https://en.wikipedia.org/wiki/Chrysanthemum_indicum
- Wikipedia. (2024). *Steviol glycoside*. https://en.wikipedia.org/wiki/Steviol_glycoside
- World Population Review. (2023). *Countries by IQ - Average IQ by Country 2024*. <https://worldpopulationreview.com/country-rankings/average-iq-by-country>
- Wu, L. Y., Gao, H. Z., Wang, X. L., Ye, J. H., Lu, J. L., & Liang, Y. R. (2010). Analysis of chemical composition of *Chrysanthemum indicum* flowers by GC/MS and HPLC. *Journal of Medicinal Plants Research*, 4(5), 421–426.
- Yaacob, W. M. H. W., Long, I., Zakaria, R., & Othman, Z. (2020). Investigation of antioxidant potentials of methanolic and ethyl acetate fractions of tualang honey. *International Medical Journal*, 27(6), 748–751.
- Youssef, F. S., Eid, S. Y., Alshammari, E., Ashour, M. L., Wink, M., & El-Readi,



UNIVERSITAS
GADJAH MADA

Optimasi Sediaan Gummy Bear Ekstrak Bunga Krisan (*Chrysanthemum indicum L.*) dengan Variasi Komposisi

Pemanis Madu dan Stevia

WIMALA HARDYAWATI PUTRI APSARI, apt. Marlyn Dian Laksitorini, M.Sc., Ph.D ; apt. Muhammad Novrizal Abdi S

Universitas Gadjah Mada, 2024 | Diunduh dari <http://etd.repository.ugm.ac.id/>

M. Z. (2020). *Chrysanthemum indicum* and *chrysanthemum morifolium*: Chemical composition of their essential oils and their potential use as natural preservatives with antimicrobial and antioxidant activities. *Foods*, 9(10). <https://doi.org/10.3390/foods9101460>

Yuniati, R., Zainuri, M., & Kusumaningrum, H. (2020). Qualitative Tests of Secondary Metabolite Compounds in Ethanol Extract of *Spirulina platensis* from Karimun Jawa Sea, Indonesia. *Biosaintifika*, 12(3), 343–349. <https://doi.org/10.15294/biosaintifika.v12i3.23153>