

## DAFTAR PUSTAKA

- Atlas Big, 2018. World Banana Production by Country [WWW Document]. AtlasBig. URL <https://www.atlasbig.com/en-ca/countries-by-banana-production> (accessed 9.23.21).
- Atun, S., Arianingrum, R., Handayani, S., Rudyansah, R., Garson, M., 2010. IDENTIFICATION AND ANTIOXIDANT ACTIVITY TEST OF SOME COMPOUNDS FROM METHANOL EXTRACT PEEL OF BANANA (*Musa paradisiaca* Linn.). Indo. J. Chem. 7, 83–87. <https://doi.org/10.22146/ijc.21718>
- Badan Pusat Statistik, 2021. Produksi Tanaman Buah-buahan 2020 [WWW Document]. Badan pusat Statistik. URL <https://www.bps.go.id/indicator/55/62/1/produksi-tanaman-buah-buahan.html> (accessed 9.23.21).
- Bee Lin, C., Yek Cze, C., 2018. Drying Kinetics and Optimisation of Pectin Extraction from Banana Peels via Response Surface Methodology. MATEC Web Conf. 152, 01002. <https://doi.org/10.1051/mateconf/201815201002>
- Campbell, J.E., Cohall, D., 2017. Pharmacodynamics—A Pharmacognosy Perspective, in: Pharmacognosy. Elsevier, pp. 513–525. <https://doi.org/10.1016/B978-0-12-802104-0.00026-3>
- Castillo-Israel, K.A.T., 2019. A COMPARATIVE STUDY ON CHARACTERISTICS OF PECTINS FROM VARIOUS FRUIT PEEL WASTES EXTRACTED USING ACID AND MICROBIAL ENZYMES. JMBFS 9, 216–221. <https://doi.org/10.15414/jmbfs.2019.9.2.216-221>
- Chodijah, S., Husaini, A., Zaman, M., Hilwatulisan, 2019. Extraction of Pectin from Banana Peels (*Musa Paradiasica Fomatypica*) for Biodegradable Plastic Films. J. Phys.: Conf. Ser. 1167, 012061. <https://doi.org/10.1088/1742-6596/1167/1/012061>
- Currie, G.M., 2018. Pharmacology, Part 1: Introduction to Pharmacology and Pharmacodynamics. J. Nucl. Med. Technol. 46, 81–86. <https://doi.org/10.2967/jnmt.117.199588>
- Das, N., Tripathi, N., Basu, S., Bose, C., Maitra, S., Khurana, S., 2015. Progress in the development of gelling agents for improved culturability of microorganisms. Front. Microbiol. 6. <https://doi.org/10.3389/fmicb.2015.00698>
- Doan, C.T., Chen, C.-L., Nguyen, V.B., Tran, T.N., Nguyen, A.D., Wang, S.-L., 2021. Conversion of Pectin-Containing By-Products to Pectinases by *Bacillus amyloliquefaciens* and Its Applications on Hydrolyzing Banana Peels for Prebiotics Production. Polymers 13, 1483. <https://doi.org/10.3390/polym13091483>
- Esther Boboye, B., 2012. Biodegradation of Selected Nigerian Fruit Peels by the use of a Nonpathogenic Rhizobium species CWP G34B. TOMICROJ 6, 88–97. <https://doi.org/10.2174/1874285801206010088>

- FAO, 2021. Banana facts and figures [WWW Document]. Food and Agriculture Organization of the United Nations. URL <http://www.fao.org/economic/est/est-commodities/bananas/bananafacts/en/#.YUFV8Z0zY2w> (accessed 9.15.21).
- FAO, 1984. Bananas, Repr. ed, Better farming series. Food and Agriculture Org. of the United Nations, Rome.
- Ferrari, R., 2015. Writing narrative style literature reviews. *Medical Writing* 24, 230–235. <https://doi.org/10.1179/2047480615Z.000000000329>
- Fmna, A., Zailan, N., 2019. Physicochemical Properties of Pectin Extracted from Selected Local Fruits By-Product. *International Journal on Advanced Science, Engineering and Information Technology* 9, 904. <https://doi.org/10.18517/ijaseit.9.3.7612>
- Ghanbarzadeh, B., Almasi, H., 2013. Biodegradable Polymers, in: Chamy, R. (Ed.), *Biodegradation - Life of Science*. InTech. <https://doi.org/10.5772/56230>
- Gopi, D., Kanimozhi, K., Bhuvaneshwari, N., Indira, J., Kavitha, L., 2014. Novel banana peel pectin mediated green route for the synthesis of hydroxyapatite nanoparticles and their spectral characterization. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 118, 589–597. <https://doi.org/10.1016/j.saa.2013.09.034>
- Harholt, J., Suttangkakul, A., Vibe Scheller, H., 2010. Biosynthesis of Pectin. *Plant Physiology* 153, 384–395. <https://doi.org/10.1104/pp.110.156588>
- Hartono, A., Janu, P.B.H., 2013. PELATIHAN PEMANFAATAN LIMBAH KULIT PISANG SEBAGAI BAHAN DASAR PEMBUATAN KERUPUK. *Jurnal Inovasi dan Kewirausahaan, Seri Pengabdian Masyarakat* 2013 2, 6.
- Hendrika, Y., Reveny, J., Sumaiyah, S., 2018. FORMULATION AND IN VITRO EVALUATION OF GASTRORETENTIVE FLOATING BEADS OF AMOXICILLIN USING PECTIN FROM BANANA PEEL (MUSA BALBISIANA ABB). *Asian J Pharm Clin Res* 11, 72. <https://doi.org/10.22159/ajpcr.2018.v11i4.23511>
- Hock, F.J. (Ed.), 2016. *Drug Discovery and Evaluation: Pharmacological Assays*. Springer International Publishing, Cham. <https://doi.org/10.1007/978-3-319-05392-9>
- IPPA, 2021. Pectin in Food & Beverage Products. IPPA. URL <https://ippa.info/factsheet-hub/pectin-in-food-beverage-products/> (accessed 12.21.21).
- Kristianto, H., Jennifer, A., Sugih, A.K., Prasetyo, S., 2020. Potensi Polisakarida dari Limbah Buah-buahan sebagai Koagulan Alami dalam Pengolahan Air dan Limbah Cair: Review. *J. Rek. Pros.* 14, 108. <https://doi.org/10.22146/jrekpros.57798>
- Kufe, D.W., Holland, J.F., Frei, E., American Cancer Society (Eds.), 2003. *Cancer medicine* 6, 6th ed. BC Decker, Hamilton, Ont. ; Lewiston, NY.
- Kumar, D., Dureja, H., 2013. PHARMACEUTICAL EXCIPIENTS: GLOBAL REGULATORY ISSUES 24, 7.

- Kumoro, A.C., Mariana, S., Maurice, T.H., Hidayat, J.P., Ratnawati, R., Retnowati, D.S., 2020. Extraction of pectin from banana (*Musa acuminata* x *balbisiana*) peel waste flour using crude enzymes secreted by *Aspergillus niger*. IOP Conf. Ser.: Mater. Sci. Eng. 991, 012005. <https://doi.org/10.1088/1757-899X/991/1/012005>
- Mahardiani, L., Larasati, R., Susilowati, E., Hastuti, B., Azizah, N.L., 2021. Potential edible coating of pectin obtained from banana peel for fruit preservation. J. Phys.: Conf. Ser. 1912, 012019. <https://doi.org/10.1088/1742-6596/1912/1/012019>
- Maneerat, N., Tangsuphoom, N., Nitithamyong, A., 2017. Effect of extraction condition on properties of pectin from banana peels and its function as fat replacer in salad cream. J Food Sci Technol 54, 386–397. <https://doi.org/10.1007/s13197-016-2475-6>
- Marenda, F.R.B., Colodel, C., Canteri, M.H.G., 2019. Investigation of cell wall polysaccharides from flour made with waste peel from unripe banana (*Musa sapientum*) biomass. J Sci Food Agric 10.
- Méndez, P.A., López, B.L., 2020. Polyelectrolyte Nanoparticles of Amphiphilic Chitosan/Pectin from Banana Peel as Potential Carrier System of Hydrophobic Molecules. Polymers 12, 2109. <https://doi.org/10.3390/polym12092109>
- Miranti, M., Wiendarlina, I.Y., Zaddana, C., 2019. Powder Drink from Banana Peel Pectin and Rice Bran Rich in Dietary Fiber. ijrte 8, 146–149. <https://doi.org/10.35940/ijrte.B1035.0782S719>
- Mohd Rasidek, N.A., Mad Nordin, M.F., Iwamoto, K., Abd Rahman, N., Nagatsu, Y., Tokuyama, H., 2018a. Rheological flow models of banana peel pectin jellies as affected by sugar concentration. International Journal of Food Properties 21, 2087–2099. <https://doi.org/10.1080/10942912.2018.1514505>
- Mohd Rasidek, N.A., Mad Nordin, M.F., Tokuyama, H., Nagatsu, Y., Mili, N., Zaini, A.S., Idham, Z., Che Yunus, M.A., 2021. Subcritical water-based pectin from banana peels (*Musa Paradisiaca* Cv.Tanduk) as a natural gelation agent. Materials Today: Proceedings 47, 1329–1335. <https://doi.org/10.1016/j.matpr.2021.02.815>
- Mohd Rasidek, N.A., Mad Nordin, M.F., Yusoff, Y.A., Tokuyama, H., Nagatsu, Y., 2018b. EFFECT OF TEMPERATURE ON RHEOLOGY BEHAVIOUR OF BANANA PEEL PECTIN EXTRACTED USING HOT COMPRESSED WATER. Jurnal Teknologi 80. <https://doi.org/10.11113/jt.v80.11467>
- Narasimman, P., Sethuraman, P., 2016. AN OVERVIEW ON THE FUNDAMENTALS OF PECTIN. IJAR 4, 1855–1860. <https://doi.org/10.21474/IJAR01/2593>
- Nayar, N.M., 2010. The Bananas: Botany, Origin, Dispersal, in: Janick, J. (Ed.), Horticultural Reviews. John Wiley & Sons, Inc., Hoboken, NJ, USA, pp. 117–164. <https://doi.org/10.1002/9780470527238.ch2>
- Ni`mah, L., Makhyarini, I., Normalina, 2020. *Musa acuminata* L. (Banana) Peel Wastes as Edible Coating Based on Pectin with Addition of Cinnamomum

- burmannii Extract. Asian J. Chem. 32, 703–705.  
<https://doi.org/10.14233/ajchem.2020.22392>
- Oliveira, T.Í.S., Rosa, M.F., Ridout, M.J., Cross, K., Brito, E.S., Silva, L.M.A., Mazzetto, S.E., Waldron, K.W., Azeredo, H.M.C., 2017. Bionanocomposite films based on polysaccharides from banana peels. International Journal of Biological Macromolecules 101, 1–8.  
<https://doi.org/10.1016/j.ijbiomac.2017.03.068>
- Pagarra, H., Hartati, Purnamasari, A.B., Rachmawaty, Rahman, R.A., 2019. Optimization of pectin extraction from kepok banana peels (musa paradisiaca) using surface response methodology. J. Phys.: Conf. Ser. 1317, 012100.  
<https://doi.org/10.1088/1742-6596/1317/1/012100>
- Pereira, M.A.F., Cesca, K., Poletto, P., de Oliveira, D., 2021a. New perspectives for banana peel polysaccharides and their conversion to oligosaccharides. Food Research International 149, 110706.  
<https://doi.org/10.1016/j.foodres.2021.110706>
- Pereira, M.A.F., Monteiro, C.R.M., Pereira, G.N., Júnior, S.E.B., Zanella, E., Ávila, P.F., Stambuk, B.U., Goldbeck, R., de Oliveira, D., Poletto, P., 2021b. Deconstruction of banana peel for carbohydrate fractionation. Bioprocess Biosyst Eng 44, 297–306. <https://doi.org/10.1007/s00449-020-02442-1>
- Picauly, P., Tetelepta, G., 2021. Characterization of pectin from tongka langit banana peels with various extraction temperature. IOP Conf. Ser.: Earth Environ. Sci. 883, 012060. <https://doi.org/10.1088/1755-1315/883/1/012060>
- Qiu, L., Zhao, G., Wu, H., Jiang, L., Li, X., Liu, J., 2010. Investigation of combined effects of independent variables on extraction of pectin from banana peel using response surface methodology. Carbohydrate Polymers 80, 326–331.  
<https://doi.org/10.1016/j.carbpol.2010.01.018>
- Rajendran, N.S., Thampi, B.S.H., 2019. EXTRACTION AND CHARACTERISATION OF PECTIN FROM BANANA PEEL. CRPJFST 45–63. <https://doi.org/10.34302/2019.11.4.4>
- Rivadeneira, J.P., Wu, T., Gaban, P.J.V., Castillo, K.A.T., 2020a. Rheological Behaviour of Purified Banana Peel Pectin from “Saba” Banana [Musa BBB saba (Musa acuminata x Musa balbisiana)] Peel Applied to Beverage. ARFMTS.
- Rivadeneira, J.P., Wu, T., Ybanez, Q., Dorado, A.A., Migo, V.P., Nayve, F.R.P., Castillo-Israel, K.A.T., 2020b. Microwave-Assisted Extraction of Pectin from “Saba” Banana Peel Waste: Optimization, Characterization, and Rheology Study. International Journal of Food Science 2020, 1–9.  
<https://doi.org/10.1155/2020/8879425>
- Saha, D., Bhattacharya, S., 2010. Hydrocolloids as thickening and gelling agents in food: a critical review. J Food Sci Technol 47, 587–597.  
<https://doi.org/10.1007/s13197-010-0162-6>
- Scot C, N., Randy C, P., Angela Kay Kepler, 2006. Musa species (banana and plantain). Permanent Agriculture Resources (PAR).

- Sharma, B.R., L, N., Dhuldhoya, N.C., Merchant, S.U., Merchant, U.C., 2006. An Overview on Pectins. *Times Food Processing Journal*.
- Subagio, M.A., Salim, C.N., Srisantoso, Q.P., Nindita, Y., Utomo, A.W., Maharani, N., 2020. Utilization of banana (*Musa paradisiaca* L.) peel as pectin source as antidiarrheal on castor oil-induced diarrheal Wistar rats model. *JMedSci* 52. <https://doi.org/10.19106/JMedSci005202202001>
- Susanti, L., 2006. PERBEDAAN PENGGUNAAN JENIS KULIT PISANG TERHADAP KUALITAS NATA. Universitas Negeri Semarang, Semarang.
- TFnet news compilation, 2016. BANANA – Name, Taxonomy, Botany. International Tropical Fruits Network. URL <https://www.itfnet.org/v1/2016/03/banana-name-taxonomy-botany/> (accessed 10.6.21).
- Thammarutwasik, P., Hongpattarakere, T., Chantachum, S., Kijroongrojana, K., Itharat, A., Reanmongkol, W., Tewtrakul, S., Ooraikul, B., 2009. Prebiotics - A review. *Songklanakarin Journal of Science and Technology*.
- Tiwari, B.K., Brunton, N.P., Brennan, C. (Eds.), 2013. *Handbook of Plant Food Phytochemicals Sources, Stability and Extraction*. John Wiley & Sons, Ltd, West Sussex, UK.
- Ullah, H., Ali, S., 2017. Classification of Anti-Bacterial Agents and Their Functions, in: Kumavath, R.N. (Ed.), *Antibacterial Agents*. InTech. <https://doi.org/10.5772/intechopen.68695>
- Valmayor, R.V., Jamaluddin, S.H., Silayoi, B., Kusumo, S., Danh, L.D., 2000. Banana cultivar names and synonyms in Southeast Asia 28.
- Wells, B.G., DiPiro, Joseph T, Schwinghammer, Terry L, DiPiro, Cecily V, 2015. *Pharmacotherapy handbook*.
- Wijayanto, N., 2006. Budidaya Pisang (*Musa paradisiaca*), in: *Silvicultural Aspects of Selected Species for Restoration, Rehabilitation and Agroforestry in Grand Forest Park Sultan Thaha Syaifuddin, Jambi*. Institut Pertanian Bogor, Bogor, p. 27.
- Yati, K., Ladeska, V., Wirawan, A.P., 2017. ISOLASI PEKTIN DARI KULIT BUAH NAGA (*Hylocereus polyrhizus*) DAN PEMANFAATANNYA SEBAGAI PENGIKAT PADA SEDIAAN PASTA GIGI. *Media Farmasi* 14, 1. <https://doi.org/10.12928/mf.v14i1.9824>
- Yunus, Z.M., Asman, S., Mohd Al, N.A., 2020. INVESTIGATION OF ABSORBENT, ANTIOXIDANT AND THICKENING AGENT PROPERTIES OF TROPICAL FRUIT PEELS. *J. Sustain. Sci. Manage.* 15, 63–79. <https://doi.org/10.46754/jssm.2020.12.006>