



## DAFTAR PUSTAKA

- Ahmadi, TP. dan Nugroho, DA. 2023. Monitoring bacterial cellulose growth during fermentation with various carbon sources by applying real-time image processing. *IOP Conference Series: Earth and Environmental Science*. 1183 012031. doi:10.1088/1755-1315/1183/1/012031
- Ali, N., Chen, J., Fu, X., Hussain, W., Ali, M., Iqbal, S. Y., Aness, A., Hussain, M., Rashid, M., Thanh, H. V., 2023. Classification of reservoir quality using unsupervised machine learning and cluster analysis: Example from Kadanwari gas field, SE Pakistan. *Geosystem and Geoenvironment* 2. 100123. <https://doi.org/10.1016/j.geogeo.2022.100123>
- Anam, C., Zuman M. Z., dan Khoirunnisa, U., 2019. Mengungkap Senyawa Pada Nata De Coco Sebagai Pangan Fungsional. *Jurnal Ilmu Pangan dan Hasil Pertanian* 3(1):42-53.
- Andono, P., N., Sutojo, P., dan Muljono. 2017. *Pengolahan Citra Digital*. Yogyakarta. Penerbit ANDI.
- Arafah, S. dan Tanjung, Y., 2019. Analisis Faktor Determinan yang Mempengaruhi Pemakaian Metode Jit. *Studi Kasus Ud. Pusaka Bakti*). *Bisei: Jurnal Bisnis dan Ekonomi Islam*, 4(01).
- Astuti, E.N.J. Nugroho, D.A. dan Ahmadi, T.P. 2023. Application of real-time image processing for monitoring bacterial cellulose growth in various nitrogen sources using soybean-boiled wastewater medium during fermentation. *IOP Conference Series: Earth and Environmental Science*. 1183 012064. doi:10.1088/1755-1315/1183/1/012064
- Bagaswoto, A. S. B., Suyantohadi., Sukartiko., A. C., 2021. Klasifikasi Mutu Jeruk Siam (*Citrus nobilis*) Berdasarkan Parameter Citra Kecatatan Menggunakan Metode Pengolahan Citra Digital dan Jaringan Saraf Tiruan. *Skripsi*. Fakultas Teknologi Pertanian. Yogyakarta.
- Bangun, B. P., Radi, Purwantana, B., 2020. Estimasi Berat Biji Kakao Kering (*Theobroma cocoa L*) dengan Analisis Citra Digital. *Skripsi*. Fakultas Teknologi Pertanian. Yogyakarta
- Bholowalia, P. dan Kumar, A. 2014. EBK-Means: A Clustering Technique based on Elbow Method and K-Means in WSN. *International Journal of Computer Applications*. 105(9):17-24.
- Bianchet, R. T., Cubas, A. L. Machado, M. M., dan Moecke, E. H., S. 2020. Applicability of bacterial cellulose in cosmetics – bibliometric review. *Biotechnology Reports*. 27. 1-6. <https://doi.org/10.1016/j.btre.2020.e00502>
- Boby, C. A., Roni, A., dan Muhsinin, S., 2021. Review: Produksi, Karakterisasi dan Aplikasi Bacterial cellulosedi Bidang Farmasi. *Journal of Pharmacy and Science* 4 (2):12-28.



- Cabrera, G. F., Balbin, M. M., Eugenio, P. J. G., Zapanta, C. S., M, J.J., Salazar, J. R., dan Mingala, C., N. 2017. Green synthesis of gold nanoparticles reduced and stabilized by sodium glutamate and sodium dodecyl sulfate. *Biochemical and Biophysical Research Communications* 484:774-780. <http://dx.doi.org/10.1016/j.bbrc.2017.01.164>
- Campano, C., Balea, A., Blanco, A., Negro, C. 2016. Enhancement of the fermentation process and properties of bacterial cellulose: a review. *Cellulose*. 23:57-91.
- Cazon, P., dan Vazquez, M. 2021. Bacterial cellulose as a biodegradable food packaging material: A review. *Food Hydrocolloids*. 113. <https://doi.org/10.1016/j.foodhyd.2020.106530>
- Chen, S. Q., Meldrum, O. W., Liao, Q., Li., Cao, X., Guo, L., Zhang, S., Zhu, J., dan Li, Lin. 2021. The influence of alkaline treatment on the mechanical and structural properties of bacterial cellulose. *Carbohydrate Polymers* 271. <https://doi.org/10.1016/j.carbpol.2021.118431>
- Dongoran, S., Khuriyati, N., dan Sukartiko, A. C., 2018. Deteksi Mutu Bakpia Menggunakan Pengolahan Citra Digital dan Jaringan Saraf Tiruan. *Skripsi*. Fakultas Teknologi Pertanian. Yogyakarta.
- Ebhardt, H. A., Ponchon, P., Theodosiadis, K., Fuerer, C., Compondu, M. C.C., O'Regan, J., Affolter, dan Joubran, Y., 2021. Reduction of multiple reaction monitoring protein target list using correlation analysis. *Journal of Dairy Science* 105(9) :7216-7217. <https://doi.org/10.3168/jds.2021-21647>
- Fajar, A. F., Fallah M. A. F., dan Suyantohadi, A. 2021. Potensi Penentuan Kematangan Buah Stroberi (*Fragaria x ananassa* var. Oso Grande) Berdasarkan Parameter Warna Menggunakan Pengolahan Citra Digital dan Metode Jaringan Saraf Tiruan. *Skripsi*. Fakultas Teknologi Pertanian. Yogyakarta.
- Gani, I., dan Amalia, S., 2015. *Alat Analisis Data: Aplikasi Statistik untuk Penelitian Bidang Ekonomi dan Sosial*. Yogyakarta. CV. ANDI OFFSET.
- Ghozali, M., Meliana, Y., dan Chalid., M. 2021. Synthesis and characterization of bacterial cellulose by Acetobacter xylinum using liquid tapioca waste. *Material Todays: Proceeding* 44:2131-2134.
- Grueiro, M., Moreno, A., Verde., dan Santiago, O. 2019. Data-driven monitoring of multimode continuous processes: A review. *Chemical and Intelligent Laboratory System*. 189:56-71. <https://doi.org/10.1016/j.chemolab.2019.03.012>
- Halim, H. H., Dek, M. S. P., Hamid, A. A., Saari, N., Lazim, Abas, F., Ngahim, A., Ismail, A., dan Jaafar, A. H., 2023. Novel sources of bioactive compounds in coconut (*Cocos nucifera* L.) water from different maturity levels and



varieties as potent skin anti-aging strategies and anti-fatigue agents. *Food Bioscience* 51. <https://doi.org/10.1016/j.fbio.2022.102326>

Hamad, A. dan Kristiono. 2013. Pengaruh penambahan sumber nitrogen terhadap hasil fermentasi nata de coco. *Momentum*. 9(1):62-65.

Huang, J.X., Li, Q.S., dan Han, X. L., 2022. Recovery of missing field measured wind pressures on a supertall building based on correlation analysis and machine learning. *Journal of Wind Engineering & Industrial Aerodynamics*. 231. 105237. <https://doi.org/10.1016/j.jweia.2022.105237>

Irfan, M. dan Warsono. 2023. Perbandingan Model Gompertz, Logistic, dan Weibull pada Data Kasus Meninggal Pasien Covid-19. *Journal of Statistic, Probability, and Its Application*. 1(1):23-75.

Ihsan, Burhanuddin. 2021. *Dasar-Dasar Mikrobiologi*. Insan Cendekia Mandiri. Tarakan.

Johnson, R.R., dan Wichern, D.A. 2007. *Applied Multivariate Statistical Analysis*. New Jersey:Pearson Prentice Hall.

Jolliffe, I. T. dan Cadima, J., 2016. Principal Component Analysis: A review and reent developments. *Philosophical Transactions of the Royal Society a: Mathematical, Physical and Engineering Science*. 374(2065):1-16. <https://doi.org/10.1098/rsta.2015.0202>.

Khan, S. B dan Kamal, T. 2021. *Bacterial Cellulose Synthesis, Production, and Applications*. CRC Press.

Kirana, K.C. 2021. *Teori dan Penerapan Pengolahan Citra Digital pada Deteksi Wajah*. Ahlimedia Book. Malang.

Konzock, O., Zaghen, S., Fu, J., dan Kerkhoven, E. J., 2022. Urea is a drop-in nitrogen source alternative to ammonium sulphate in *Yarrowia lipolytica*. *iScince* 25:1-16. <https://doi.org/10.1016/j.isci.2022.105703>

Kristiandi, K., Lusiana, S, A., A'yunin, N, A, Q. 2021. *Teknologi Fermentasi. Yayasan Kita Menulis*. Medan.

Krutanty, D. Faqih, D. M, dan Upa, N, P. 2018. *Monosodium Glutamat.. Primer Koperasi Ikatan Dokter Indonesia*. Jakarta

Kusniawati, E. Sari, D.K., dan Pratiwi, I. 2020. Pelatihan Pembuatan Nata de coco di Kelurahan Mariana Ilir Kabupaten Banyuasin. *Seminar Nasional AVoER XII*. Fakultas Teknik Universitas Sriwijaya.

Lahiri, D., Nag, M., Dutta, B., Dey, A., Sarkar, T., Pati, S., Edinur, H., Kari, Z. A., Noor, N. H. M., dan Ray, R.R. 2021. Bacterial Cellulose: Production, Characterization, and Application as Antimicrobial Agent. *Int J. Mol. Sci.* 22. <https://doi.org/10.3390/ijms222312984>



- Lee, S. H., An, S. J., Lim, Y. M., & Huh, J. B. 2017. The efficacy of electron beam irradiated bacterial cellulose membranes as compared with collagen membranes on guided bone regeneration in peri-implant bone defects. *Materials*, 10(9). <https://doi.org/10.3390/ma10091018>
- Lestari, P. dan Suryadi. 2014. Study on the Production of Bacterial Cellulose from *Acetobacter xylinum* Using Agro-Waste. *Journal of Biological Sciences*. 7(1):75-80.
- Li, K., Yu, R., Liu, Y., Wang., dan Xue, W., 2023. Correlation analysis and modeling of human thermal sensation with multiple physiological markers:An experimental study. *Energy & Buildings*. 278. 112643. <https://doi.org/10.1016/j.enbuild.2022.112643>
- Li, M., Li, Y., Huang, X., Zhao, G., Tian., W. 2014. Evaluating growth models of *Pseudomonas* spp. In seasoned prepared chicken stored at different temperatures by the principal component analysis. *Food Microbiology*. 40:41-47. <http://dx.doi.org/10.1016/j.fm.2013.11.014>
- Li, Y., Tian, C., Tian., H., Zhang, J., He, Xin, Ping, W., dan Lei, H. 2012. Improvement of bacterial cellulose production by manipulating the metabolic pathways in which ethanol and sodium citrate involved. *Appl Microbial Biotechnol*. 96:1479-1487.
- Li, Q., Zhao, Z., dan Wang, L., 2023. Slowness or Autocorrelation? A serial correlation feature analysis method and its application in process monitoring. *Journal of Process Control* 121:1-12. <https://doi.org/10.1016/j.jprocont.2022.11.010>
- Lin, D., Liu, Z., Shen, R., Chen S., dan Yang, X., 2020. Bacterial cellulose in food industry: Current research and future prospects. *International Journal of Biological Macromolecules*. 158. 1007-1019. <https://doi.org/10.1016/j.ijbiomac.2020.04.230>
- Maloringan Y. G., Nugroho, D. A., dan Wagiman., 2016. Analisis Kelayakan Teknis dan Finansial Produksi Nata de Coco Menggunakan Air Rendaman Kedelai sebagai Pengganti Zwavelzuur Ammonia (ZA). *Skripsi*. Fakultas Teknologi Pertanian. Yogyakarta.
- Malvianie, E., Pratama, Y., dan Salafudin. 2014. Fermentasi Sampah Buah Nanas Menggunakan Sistem Kontinu dengan Bantuan Bakteri *Acetobacter xylinum*. *Jurnal Institut Teknologi Nasional* 2(1): 1-11.
- Mandey, L. C., Tarore, D., Kandou, J. E. A., dan Dumais, N. M., 2020. TEKNOLOGI PRODUKSI NATA DE COCO BERBAHAN BAKU ORGANIK. *Jurnal Ilmu dan Teknologi Pangan* 6(2):655-672. <http://www.profood.unram.ac.id/index.php/profood>
- Marcos, Q. G., Moreno, A. P., Verde. C., dan Santiago, O.L., 2019. Data-driven monitoring of multimode continuous processes: A review. *Chemometrics*



and Intelligent Laboratory Systems 189(2019):56-71.  
<https://doi.org/10.1016/j.chemolab.2019.03.012>

Marlinda, M., & Hartati, R. 2019. Optimalisasi Karakteristik Nata de Banana Skin Melalui Perubahan Konsentrasi Acetobacter xylinum. *Jurnal Optimalisasi*, 5(2), 52-59.

Munantri, N. Z., Sofyan, H., dan Yanu, M. 2019. Aplikasi Pengolahan Citra Digital untuk Identifikasi Umur Pohon. *TEMATIKA* 16(2):97-104.

Natoen, A. Sopiany, A. Satriawan, dan Periansya. 2018. Faktor-Faktor Demografi yang Berdampak Terhadap Kepatuhan WP Badan (UMKM) Di Kota Palembang. *Jurnal Riset Terapan Akuntansi*. 2(2):105-115.

Novarianto, H., 2021. *Pembangunan Perkebunan Kelapa Hibrida Berkelanjutan*. LILY PUBLISHER. Yogyakarta.

Nugroho, D. A., Sutiarso, L., Rahayu, E. S., dan Masithoh, R. E., 2020. Utilizing Real-Time Image Processing for Monitoring Bacterial Cellulose Formation During Fermentation. *agriTECH* 40(2):118-123.  
<http://doi.org/10.22146/agritech.49155>

Nugroho, D.A., 2021. Pengembangan Model Kinetika Pembentukan *Bacterial Cellulose* Menggunakan *Realtime Image Processing* untuk Monitoring Fermentasi Nata de Coco. *Disertasi*. Fakultas Teknologi Pertanian. Universitas Gadjah Mada. Yogyakarta.

Nugroho, D.A., Sutiarso, L., Rahayu, E. S., dan Masithoh, R. E., 2021. New Approach for Observation of Bacterial Cellulose Sheet Formation Method using Image Processing. *IOP Conf. Series:Earth and Environ Sci.* 752. doi:10.1088/1755-1315/752/1/012014

Nugroho, D.A., Sutiarso, L., Rahayu, E. S., dan Masithoh, R. E., 2022. Kinetics observations of bacterial cellulose thickness formation using image processing approach during the fermentation process. *Food Research* 6(1):210-214. [https://doi.org/10.26656/fr.2017.6\(1\).093](https://doi.org/10.26656/fr.2017.6(1).093)

Park, J.K., Jung, J.Y., dan Khan, T., 2009. *Bacterial Cellulose*. Woodhead Publishing.

Ploska, J., Garbowska, M., Pluta, A., dan Rozanska, L. S. 2023. Bacterial cellulose e Innovative biopolymer and possibilities of its applications in dairy industry. *International Dairy Journal*. 140. 1-12.  
<https://doi.org/10.1016/j.idairyj.2023.105586> 0958-6946

Prayoga, I, P, A., Ramona, Y., dan Suaskara, I, B, M. 2021. Bakteri Asam Laktat Bermanfaat Dalam Kefir Dan Perannya Dalam Meningkatkan Kesehatan Saluran Pencernaan. *SIMBIOSIS*. 2:115-130.

Putra, Darma. 2010. *Pengolahan Citra Digital*. CV. ANDI OFFSET. Yogyakarta.



- Putriana, I., dan Aminah, S., 2013. Mutu Fisik, Kadar Serat dan Sifat Organoleptik Nata de Cassava Berdasarkan Lama Fermentasi. *Jurnal Pangan dan Gizi* 4(7):29-38.
- Putri, S. A., Febrianti, R., dan Sunardi. 2020. Potensi Nanoselulosa untuk Agen Slow Release Bahan Alam: Review. *Jurnal Jejaring Matematika dan Sains*. 2(2): 56-60.
- Putri, S.N.Y., Syahrani, W.F, Utami, C.V.B., Safitri, D.R., Arum, Z.A., Prihastari, Z.S., dan Sari, A.R. 2021. Pengaruh Mikroorganisme, Bahan Baku, dan Waktu Inkubasi pada Karakter Nata: Review. 14(1):62-74. <https://doi.org/10.20961/jthp.v14i1.47654>
- Ramana, K.V., Tomar, dan Singh, L., 2000. Effect of Various Carbon and Nitrogen Sources on Cellulose Synthesis by *Acetobacter xylinum*. *World Journal of Microbial & Biotechnology*. 16:245-248.
- Ramiro, C., Valenzuela, S., Valls, C., Roncero, M. B., Pastor, F.I., Diaz, P., dan Martinez., J. 2020. Development of an antimicrobial bioactive paper made from bacterial cellulose. *International Jorunal of Biological Macromolecules*. 158. 587-694. <https://doi.org/10.1016/j.ijbiomac.2020.04.234>
- Rahmidar, L., Wahidiniawati, S., dan Sudiarti, T. 2021. Pembuatan dan Karakterisasi Metil Selulosa dari Bonggol dan Kulit Nanas (*Ananas comosus*). *Jurnal Pendidikan dan Ilmu Kimia*. 2(1):88-96.
- Retni, S.B., 2008. Pengaruh Konsentrasi Starter *Acetobacter xylinum* Terhadap Ketebalan dan Rendemen Selulosa Nata de Soya. Artikel Program Studi Pendidikan Biologi FKIP Universitas Jambi. 1(1):19-24.
- Ristiati, Ni Putu. 2017. *Mikrobiologi Terapan*. Rajawali Press. Depok.
- Rohaeti, Eli. 2019. *Kimia Makromolekul: Tekstil Antibakteri*. UNY Press. Yogyakarta.
- Safitri, M. P., Caronge, M. W., dan Kadirman. 2017. Pengaruh Pemberian Sumber Nitrogen dan Bibit Bakteri *Acetobacter xylinum* terhadap Kualitas Hasil Nata de Tala. *Jurnal Pendidikan Teknologi Pertanian*. 3: 95-106.
- Safitri, V., Irmayeni, N., Putri, W. N., Putri, Z. S., Amalia, F. R., Fevria, R, dan Achyar., 2021. Pengembangan Varian Rasa Produk Nata De Coco dengan Menggunakan Jeruk (*Citrus Sinensis*) terhadap Tingkat Kepuasan Konsumen. *Prosiding SEMNAS BIO*. Univesitas Negeri Padang.
- Santosa, B. Tantalu, L. Sairo, N. W. 2022. Sintesis Selulosa Bakteri dari Jerami Kulit Nangka dengan Penambahan Beberapa Konsentrasi Sukrosa. *AGROMIX*. 13(1):67-73.
- Santosa, B., Rozana., dan Astutik. 2021. Pemanfaatan sumber nitrogen organik dalam pembuatan nata de coco. *Jurnal Teknologi Pangan*. 12(1):52-60.



- Saraswati, P.W. Nocianitri, K. A. dan Arikantana, N. M. I. H. 2021. Pola Pertumbuhan *Lactobacillus sp.* F213 Selama Fermentasi Pada Sari Buah Terung Belanda (*Solanum betaceum Cav.*). *Jurnal Ilmu dan Teknologi Pangan*. 10(4):621-623.
- Sari, D., dan Rahmawati, A. 2020. Analisa Kandungan Limbah Cair Tempe Air Rebusan dan Air Rendaman Kedelai. *Jurnal Ilmiah Media Husada*. 9(1):36-41.
- Schober, P., Boer, C., dan Schwarte, L. A., 2018. Correlation Coefficient: Appropriate Use and Interpretation. *Anesthesia and Analgesia* 126(5): 1763-1768. DOI: 10.1213/ANE.0000000000002864
- Sidou, L. F. dan Borges. E. M. 2020. Teaching Principal Component Analysis Using a Free and Open Sources Software Program and Exercise Applying to Real-World Examples. *Journal of Chemical Education*. 97:1666-1676. <http://dx.doi.org/10.1021/acs.jchemed.9b00924>.
- Sundarsih dan Yuliana Kurniaty. 2009. Pengaruh Waktu dan Suhu Perendaman Kedelai pada Tingkat Kesempurnaan Ekstraksi Protein Kedelai dalam Proses Pembuatan Tahu. Makalah Penelitian Jurusan Teknik Kimia Fakultas Teknik Universitas Diponegoro.
- Suhartini, S., dan Nurika, I. 2018. Teknologi Pengolahan Limbah Agroindustri. UB Press. Malang.
- Tih, F., Pramono, H., Hasianah, S. T., Nuryanto, E. T., Haryono, A. G., dan Rachman, O., 2017. Efek Konsumsi Air Kelapa (Cocos nucifera) terhadap Ketahanan Berolahraga Selama Latihan Lari pada Laki-laki Dewasa Bukan Atlet. *Global Medical and Health Communication*. 5(1): 33-38.
- Tjerve K dan Tjerve, Even. 2017. The Gompertz model is well known and widely used in many aspects of biology. It has been frequently used to describe the growth of animals and plants, as well as the number or volume of bacteria and cancer cells. *PLoS ONE* 12: 1-17. <https://doi.org/10.1371/journal.pone.0178691>
- Wahyuningsih, N. dan Zulaika. E. 2018. Perbandingan Pertumbuhan Bakteri Selulotik Pada Media Nutrient Broth dan Carboxy Methyl Cellulose. *Jurnal Sains dan Senin ITS*. 7(2):36-38.
- Wang, S. S., Han, Y. H., Chen, J. L., Zhang, D. C., Shi, X. X., Ye, Y. X., ... Li, M. 2018. Insights into bacterial cellulose biosynthesis from different carbon sources and the associated biochemical transformation pathways in *Komagataeibacter* sp. W1. *Polymers* 10(9): 1–20.
- Wijayanti, F., Kumalaningsih, S., dan Effendi, M., 2012. Pengaruh Penambahan Sukrosa dan Asam Asetat Glacial Terhadap Kualitas Nata dari Whey Tahu dan Substrat Air Kelapa. *Jurnal Industrial* 1(2): 86-93.



Wijayasekara, K.N., dan Wansapala, J., 2021. Comparison of a flavor enhancer made with locally available ingredients against commercially available Mono Sodium Glutamate. *International Journal of Gastronomy and Food Science* 23:1-4. <https://doi.org/10.1016/j.ijgfs.2020.1002B6>

Xu, X., Liu, G., Zhao, D., Chen, J., Shao, Y., Wang, J., Zhou, K., Li, Q., Wei, Q., dan Wang, H., 2020. Enhancement of anammox bacterial activity by sodium glutamate. *Chemosphere* 244:1-7. <https://doi.org/10.1016/j.chemosphere.2019.125570>

Xu, H., Wang, T., Koppala, S., Hu, J., Ma, S., Miao, W., Le, T., dan Zhang, L., 2022. Improving the quality of ammonium sulfate produced from the flue gas desulfurization process by using ammonium persulfate. *Separation and Purification Technology* 308:1-13. <https://doi.org/10.1016/j.seppur.2022.122879>

Xu, S., Ma, Z., Chen, Y., Li, J., Jiang, H., Qu., Zhang, W., Li, C., dan Liu, S. 2022. Characterization of the flavor and nutritional value of coconut water vinegar based on metabolomics. *Food Chemistry*. 369. <https://doi.org/10.1016/j.foodchem.2021.130872>

Yeh, Y., Wu, H., dan Huang, F., 2022. Exploring profiles of varied types of achievement goals, emotions and digital insight problem solving through cluster analysis. *Thinking Skills and Creativity* 46.101170. <https://doi.org/10.1016/j.tsc.2022.101170>

Yodsawan, N., Owatworakit, A., Ngaokla, A., Tawichai, N., dan Soykeabkaew, N., 2012. EFFECT OF CARBON AND NITROGEN SOURCES ON BACTERIAL CELLULOSE PRODUCTION FOR BIONANOCOMPOSITE MATERIALS. *1<sup>st</sup> Mae Fah Luang University International Conference*.

Zahan K A, Nordin K, Mustapha M, and Zairi M N M., 2015. Effect of Incubation Temperature on Growth of Acetobacter xylinum 0416 and Bacterial Cellulose. *Production Applied Mechanics and Materials*. 815: 3-8

Zahan, K. A., Pa'e N., dan Muhamad, I. I., 2016. An Evaluation of Fermentation Period and Disc Rotation Speed of Rotary Disc Reactor for Bacterial Cellulose Production. *Sains Malaysiana*. 45(3):393-400.

Zhang, P., Ma, W., dan Qian, S., 2022. Cluster analysis of day-to-day traffic data in networks. *Transportation Research Part C* 144. 103882. <https://doi.org/10.1016/j.trc.2022.103882>