



DAFTAR PUSTAKA

- Al-Shorgani, N.K.N. *et al.* (2015) ‘Biobutanol production by a new aerotolerant strain of *Clostridium acetobutylicum* YM1 under aerobic conditions’, *Fuel*, 158(1), pp.855–863.
- Al-Shorgani, N.K.N. *et al.* (2017) ‘Impact of pH and butyric acid on butanol production during batch fermentation using a new local isolate of *Clostridium acetobutylicum* YM1’, *Saudi Journal of Biological Sciences*, 25(2), pp. 1–10. Available at: <https://doi.org/10.1016/j.sjbs.2017.03.020>.
- Al-Shorgani, N.K.N. *et al.* (2018) ‘Enhanced butanol production by optimization of medium parameters using *Clostridium acetobutylicum* YM1’, *Saudi Journal of Biological Sciences*, 25(7), pp. 1308–1321. Available at: <https://doi.org/10.1016/j.sjbs.2016.02.017>.
- Bankar, S.B. *et al.* (2012) ‘Continuous two stage acetone-butanol-ethanol fermentation with integrated solvent removal using *Clostridium acetobutylicum* B 5313’, *Bioresource Technology*, 106(1), pp. 110–116. Available at: <https://doi.org/10.1016/j.biortech.2011.12.005>.
- Becerra, M., Cerdán, M.E. and González-Siso, M.I. (2015) ‘Biobutanol from cheese whey’, *Microbial Cell Factories*, 14(27), pp. 1–14. Available at: <https://doi.org/10.1186/s12934-015-0200-1>.
- Chan, R. *et al.* (2026) ‘Environmental Technology & Innovation Identification of biobutanol-associated genes and pathway limitations in non-virulent *Bacillus anthracis* 3B1 through functional genome analysis and fermentation optimization’, 41(1), pp. 1–16.
- Chen, H. *et al.* (2017) ‘High-efficiency bioconversion of kitchen garbage to biobutanol using an enzymatic cocktail procedure’, *Bioresource Technology*, 17, pp. 1110–1121. Available at: <https://doi.org/10.1016/j.biortech.2017.09.056>.
- Dolejš, I. *et al.* (2014) ‘Butanol production by immobilised *Clostridium acetobutylicum* in repeated batch, fed-batch, and continuous modes of fermentation’, *Bioresource Technology*, 169, pp. 723–730. Available at:



LAPORAN HASIL PENELITIAN

“Pengaruh Konsentrasi Substrat Dan Jumlah Bakteri Pada Produksi Biobutanol Dari Molase Menggunakan *Clostridium Acetobutylicum*”

<https://doi.org/10.1016/j.biortech.2014.07.039>.

- Dolui, A.K. and Das, S. (2011) ‘Comparative study of 6-APA production by free and agar immobilized bacteria in nutrient broth culture’, *Indian Journal of Experimental Biology*, 49(4), pp. 289–292.
- Dürre, P. (2008) ‘Fermentative butanol production: Bulk chemical and biofuel’, *Annals of the New York Academy of Sciences*, 1125, pp. 353–362. Available at: <https://doi.org/10.1196/annals.1419.009>.
- Fauziah, P. N. (2023) *Bakteriologi Dasar dan Teknik Pemeriksaan di Laboratorium*. Bandung: Widina Media Utama.
- Feldmane, L. *et al.* (2024) ‘Effects of Temperature, pH, and Agitation on Growth and Butanol Production of *Clostridium acetobutylicum*, *Clostridium beijerinckii*, and *Clostridium saccharoperbutylacetonicum*’, *Environmental and Climate Technologies*, 28(1), pp. 71–83. Available at: <https://doi.org/10.2478/rtuect-2024-0007>.
- Fernández-Delgado, M. *et al.* (2019) ‘Comparison of mild alkaline and oxidative pretreatment methods for biobutanol production from brewer’s spent grains’, *Industrial Crops and Products*, 130(1), pp. 409–419. Available at: <https://doi.org/10.1016/j.indcrop.2018.12.087>.
- Haigh, K.F. *et al.* (2018) ‘Simulation and comparison of processes for biobutanol production from lignocellulose via ABE fermentation’, *Biofuels, Bioproducts and Biorefining*, 12(6), pp. 1023–1036. Available at: <https://doi.org/10.1002/bbb.1917>.
- Huzir, N.M. *et al.* (2018) ‘Agro-industrial waste to biobutanol production: Eco-friendly biofuels for next generation’, *Renewable and Sustainable Energy Reviews*, 94(1), pp. 476–485. Available at: <https://doi.org/10.1016/j.rser.2018.06.036>.
- Ibrahim, M.F., Kim, S.W. and Abd-Aziz, S. (2018) ‘Advanced bioprocessing strategies for biobutanol production from biomass’, *Renewable and Sustainable Energy Reviews*, 91(1), pp. 1192–1204. Available at: <https://doi.org/10.1016/j.rser.2018.04.060>.
- Jacob, M.E. *et al.* (2020) ‘Optimizing a Screening Protocol for Potential Extended-



LAPORAN HASIL PENELITIAN

“Pengaruh Konsentrasi Substrat Dan Jumlah Bakteri Pada Produksi Biobutanol Dari Molase Menggunakan *Clostridium Acetobutylicum*”

- Spectrum β -Lactamase *Escherichia coli* on MacConkey Agar for Use in a Global Surveillance Program’, *Journal of Clinical Microbiology*, 58(9), pp. 1–9. Available at: <https://doi.org/10.1128/JCM.01039-19>.
- Jamir, L. *et al.* (2021) ‘Composition, valorization and therapeutical potential of molasses: a critical review’, *Environmental Technology Reviews*, 10(1), pp. 131–142. Available at: <https://doi.org/10.1080/21622515.2021.1892203>.
- Jannah, A.M., Amalia, D.U. and Hana, N.S. (2019) ‘Biobutanol Production from Bagasse Using Ammonia Pre-treatment and Acid Hydrolysis Method’, *IOP Conference Series: Materials Science and Engineering*, 543(1), pp. 1–7. Available at: <https://doi.org/10.1088/1757-899X/543/1/012053>.
- Khedkar, M.A. *et al.* (2017) ‘Sustainable biobutanol production from pineapple waste by using *Clostridium acetobutylicum* B 527: Drying kinetics study’, *Bioresource Technology*, 225, pp. 359–366. Available at: <https://doi.org/10.1016/j.biortech.2016.11.058>.
- Kurniawati, M.W. (2024) ‘Penguujian Kuat Tarik dan Kekerasan pada Alkyd Resin dari Kombinasi Palm Fatty Acid Distillate dan Urea Formaldehid Terbutilasi’, 6(2), pp. 130–134.
- Li, Z. *et al.* (2021) *Molecular mechanism of ethanol-H₂ co-production fermentation in anaerobic acidogenesis: Challenges and perspectives*, *Biotechnology Advances*. Elsevier Inc. Available at: <https://doi.org/10.1016/j.biotechadv.2020.107679>.
- Lin, Z., Cong, W. and Zhang, J. (2023) ‘Biobutanol Production from Acetone–Butanol–Ethanol Fermentation: Developments and Prospects’, *Fermentation*, 9(9), pp. 1–17. Available at: <https://doi.org/10.3390/fermentation9090847>.
- Md Razali, N.A.A. *et al.* (2018) ‘Optimisation of simultaneous saccharification and fermentation (SSF) for biobutanol production using pretreated oil palm empty fruit bunch’, *Molecules*, 23(8), pp. 1–17. Available at: <https://doi.org/10.3390/molecules23081944>.
- Liu, D. *et al.* (2014) ‘Biobutanol production in a *Clostridium acetobutylicum* biofilm reactor integrated with simultaneous product recovery by adsorption’, *Biotechnology for Biofuels*, 7(1), pp. 1–13. Available at: <https://doi.org/10.1186/s13068-014-0181-1>.



LAPORAN HASIL PENELITIAN

“Pengaruh Konsentrasi Substrat Dan Jumlah Bakteri Pada Produksi Biobutanol Dari Molase Menggunakan *Clostridium Acetobutylicum*”

<https://doi.org/10.1186/1754-6834-7-5>.

- Margareta, M.A.H. and Wonorahardjo, S. (2023) ‘Optimasi Metode Penetapan Senyawa Eugenol dalam Minyak Cengkeh Menggunakan Gas Chromatography – Mass Spectrum dengan Variasi Suhu Injeksi’, *Jurnal Sains dan Edukasi Sains*, 6(2), pp. 95–103. Available at: <https://doi.org/10.24246/juses.v6i2p95-103>.
- Mohtasebi, B. *et al.* (2021) ‘Novel fusants of two and three clostridia for enhanced green production of biobutanol’, *Biofuels*, 12(8), pp. 1017–1027. Available at: <https://doi.org/10.1080/17597269.2019.1573605>.
- Ni, Y., Wang, Y. and Sun, Z. (2012) ‘Butanol production from cane molasses by *Clostridium saccharobutylicum* DSM 13864: Batch and semicontinuous fermentation’, *Applied Biochemistry and Biotechnology*, 166(8), pp. 1896–1907. Available at: <https://doi.org/10.1007/s12010-012-9614-y>.
- Putri, M.H, Sukini, & Yodong 2017, Mikrobiologi, Kementrian Kesehatan Republik Indonesia, Jakarta.
- Qureshi, N., Liu, S. and Saha, B.C. (2022) ‘Butyric Acid Production by Fermentation: Employing Potential of the Novel *Clostridium tyrobutyricum* Strain NRRL 67062’, *Fermentation*, 8(10), pp. 1–13. Available at: <https://doi.org/10.3390/fermentation8100491>.
- Russell, F.M. *et al.* (2006) ‘As a bacterial culture medium, citrated sheep blood agar is a practical alternative to citrated human blood agar in laboratories of developing countries’, *Journal of Clinical Microbiology*, 44(9), pp. 3346–3351. Available at: <https://doi.org/10.1128/JCM.02631-05>.
- Saadatinavaz, F., Karimi, K. and Denayer, J.F.M. (2021) ‘Hydrothermal pretreatment: An efficient process for improvement of biobutanol, biohydrogen, and biogas production from orange waste via a biorefinery approach’, *Bioresource Technology*, 341(1), pp. 1–10. Available at: <https://doi.org/10.1016/j.biortech.2021.125834>.
- Suprihatin, Sofiati, N. and Prastiyo, N.E. (2020) ‘Biobutanol dari Glucose Off Grade dengan Proses Fermentasi Menggunakan *Clostridium Acetobutylicum*’, *Seminar Nasional Teknik Kimia Soebardjo Brotohardjono*
-



XVI, 1(1), pp. 1–5.

- Van Der Merwe, A.B. *et al.* (2013) ‘Comparison of energy efficiency and economics of process designs for biobutanol production from sugarcane molasses’, *Fuel*, 105, pp. 451–458. Available at: <https://doi.org/10.1016/j.fuel.2012.06.058>.
- Pugazhendhi, A. *et al.* (2019) ‘Biobutanol as a promising liquid fuel for the future - recent updates and perspectives’, *Fuel*, 253, pp. 637–646. Available at: <https://doi.org/10.1016/j.fuel.2019.04.139>.
- Rana, S., Dubey, K. and Dhingra, A. (2019) ‘Enhanced biobutanol production by optimization of the medium from *Clostridium acetobutylicum* mtcc 11274 using macroalgae *Gracilaria edulis*’, *Journal of Applied Biology and Biotechnology*, 7(6), pp. 48–55. Available at: <https://doi.org/10.7324/JABB.2019.70608>.
- Restiawaty, E. and Grinanda, D. (2017) ‘Ferrous Ion and Medium Composition Effects on Acidogenic Phase in Biobutanol Production from Molasses’, *Journal of Physics: Conference Series*, 877(1). Available at: <https://doi.org/10.1088/1742-6596/877/1/012072>.
- Saadatinavaz, F., Karimi, K. and Denayer, J.F.M. (2021) ‘Hydrothermal pretreatment: An efficient process for improvement of biobutanol, biohydrogen, and biogas production from orange waste via a biorefinery approach’, *Bioresource Technology*, 341(1), pp. 1–10. Available at: <https://doi.org/10.1016/j.biortech.2021.125834>.
- Semar, D. and Yuliarita, E. (2011) ‘Meramu Bensin Ramah Lingkungan dengan Pemanfaatan Butanol’, *Lembaran publikasi minyak dan gas bumi*, 45(1), pp. 1–10. Available at: <https://doi.org/10.29017/lpmgb.45.1.611>.
- Tang, C. *et al.* (2016) ‘Sustainable biobutanol production using alkali-catalyzed organosolv pretreated cornstalks’, *Industrial Crops and Products*, 95(1), pp. 383–392. Available at: <https://doi.org/10.1016/j.indcrop.2016.10.048>.
- Tsai, T.Y. *et al.* (2020) ‘Biobutanol production from lignocellulosic biomass using immobilized *Clostridium acetobutylicum*’, *Applied Energy*, 277(April), p. 115531. Available at: <https://doi.org/10.1016/j.apenergy.2020.115531>.
-



LAPORAN HASIL PENELITIAN

“Pengaruh Konsentrasi Substrat Dan Jumlah Bakteri Pada Produksi Biobutanol Dari Molase Menggunakan *Clostridium Acetobutylicum*”

- Wang, Y. *et al.* (2017) ‘Current advances on fermentative biobutanol production using third generation feedstock’, *Biotechnology Advances*, 35(8), pp. 1049–1059. Available at: <https://doi.org/10.1016/j.biotechadv.2017.06.001>.
- Ward, O.P. (1991) ‘Fermentation and Cell’, *Bioprocessing*, pp. 121–136. Available at: <https://link.springer.com/book/10.1007/978-1-4615-3914-8#about>.
- Widyastuti, K., Maulana, M.R. and Billah, M. (2021) ‘Produksi Biobutanol dari Fruktosa Food Grade’, *Chempro*, 2(3), pp. 38–43. Available at: <https://doi.org/10.33005/chempro.v2i03.108>.
- Xu, G. *et al.* (2020) ‘Facilely reducing recalcitrance of lignocellulosic biomass by a newly developed ethylamine-based deep eutectic solvent for biobutanol fermentation’, *Biotechnology for Biofuels*, 13(1), pp. 1–14. Available at: <https://doi.org/10.1186/s13068-020-01806-9>.
- Xue, C. *et al.* (2017) ‘Recent advances and state-of-the-art strategies in strain and process engineering for biobutanol production by *Clostridium acetobutylicum*’, *Biotechnology Advances*, 35(2), pp. 310–322. Available at: <https://doi.org/10.1016/j.biotechadv.2017.01.007>.
- Yang, M. *et al.* (2021) ‘Effect of Solvent-Mixture Pretreatment on Sugar Release from Short-Rotation Coppice *Salix Schwerinii* for Biobutanol Production’, *Ssrn Electronic Journal*, 1(1), pp. 1–27. Available at: <https://doi.org/10.2139/ssrn.3934301>.
- Zaradini, A.H. and Restiawaty, E. (2016) ‘Produksi Biobutanol dari Tetes Tebu Menggunakan *Clostridium acetobutylicum* B530 Dalam Reaktor Batch Yang Terhubung Unit Pelucut Gas’, *Prosiding Snips*, 1(1), pp. 130–137.