

DAFTAR PUSTAKA

- Abdel-Raouf, N., Al-Homaidan, A. A., & Ibraheem, I. B. M. (2012). Microalgae and wastewater treatment. In *Saudi Journal of Biological Sciences* (Vol. 19, Number 3, pp. 257–275). <https://doi.org/10.1016/j.sjbs.2012.04.005>
- Anggraini, M. D., Elystia, S., & Andrio, D. (2023). Potential of *Chlorella* sp Microalgae to Remove Nutrients from Gray Water in the Sequencing Batch Biofilm Reactor (SBBR) System. *JST (Jurnal Sains Dan Teknologi)*, 12(1). <https://doi.org/10.23887/jstundiksha.v12i1.51431>
- APHA. (2017). *Standard Methods for the Examination of Water and Wastewater* (23rd ed.). <https://doi.org/10.2105/SMWW.2882.216>
- Astuti, Sriwuryandari, J. T., & Sembiring. (2012). *Outdoors Batch Cultivation Of Marine Microalgae Nannochloropsis sp using Parallel Glass Tubular Photobioreactor* (Vol. 14, Number 3).
- Bamba, B. S. B., Lozano, P., Adjé, F., Ouattara, A., Vian, M. A., Tranchant, C., & Lozano, Y. (2015). Effects of Temperature and Other Operational Parameters on *Chlorella vulgaris* Mass Cultivation in a Simple and Low-Cost Column Photobioreactor. *Applied Biochemistry and Biotechnology*, 177(2), 389–406. <https://doi.org/10.1007/s12010-015-1751-7>
- Barari, F., Eydi Gabrabad, M., & Bonyadi, Z. (2024). Recent progress on the toxic effects of microplastics on *Chlorella* sp. in aquatic environments. *Heliyon*, 10(12). <https://doi.org/10.1016/j.heliyon.2024.e32881>
- Barsanti, L., & Gualtieri, P. (2014a). *Algae: Anatomy, Biochemistry, and Biotechnology* (2nd ed.).
- Barsanti, L., & Gualtieri, P. (2014b). *Algae: Anatomy, Biochemistry, and Biotechnology, Second Edition*.
- Becker, E. W. (1994). *Microalgae: Biotechnology and Microbiology*. Cambridge University Press.
- Bella, G. Di, & Mannina, G. (2020). Intermittent aeration in a hybrid *Moving Bed Biofilm Reactor* for carbon and nutrient biological removal. *Water (Switzerland)*, 12(2). <https://doi.org/10.3390/w12020492>

- Berner, F., Heimann, K., & Sheehan, M. (2015). Microalgal biofilms for biomass production. *Journal of Applied Phycology*, 27(5), 1793–1804. <https://doi.org/10.1007/s10811-014-0489-x>
- Bhuyar, P., Diem Hong, D., Mandia, E., Hasbi Ab Rahim, M., Pragas Maniam, G., Govindan, N., Viet Str, Q., & Giay, C. (2020). Salinity Reduction From Poly-Chem-Industrial Wastewater by Using Microalgae (*Chlorella* sp.) Collected From Coastal Region of Peninsular Malaysia. In *Journal of Biology and Medicine: Open Access Research Article* | (Vol. 1, Number 1). www.gnosscience.com
- Boelee, N. C., Temmink, H., Janssen, M., Buisman, C. J. N., & Wijffels, R. H. (2012). Scenario analysis of nutrient removal from municipal wastewater by microalgal biofilms. *Water (Switzerland)*, 4(2), 460–473. <https://doi.org/10.3390/w4020460>
- Chairani Mustika, Shinta Elystia, & Sri Rezki Muria. (2021). Penyisihan Nitrogen Total Dalam Limbah Cair Hotel Dengan Sistem *Moving Bed Biofilm Reactor* Menggunakan *Chlorella* Sp. *Jurnal Sains Dan Teknologi*, Vol 10 No 1.
- Elystia, S., Andrio, D., Fitria, D., Sasmita, A., & Setianingsih, R. (2024). Pengembangan Rotary Algae Biofilm Reactor (RABR) Sistem Semikontinu untuk Produksi Biomassa dan Kadar Lipid, serta Penyisihan Polutan Organik Konsentrasi Tinggi. *Jurnal Ilmu Lingkungan*, 22(3), 693–703. <https://doi.org/10.14710/jil.22.3.693-703>
- Fogg, G. E., & Thake, B. (1987). *Algal-Cultures-and-Phytoplankton-Ecology*.
- Gururani, P., Bhatnagar, P., Kumar, V., Vlaskin, M. S., & Grigorenko, A. V. (2022). Algal Consortiums: A Novel and Integrated Approach for Wastewater Treatment. In *Water (Switzerland)* (Vol. 14, Number 22). MDPI. <https://doi.org/10.3390/w14223784>
- Guzzon, A., Di Pippo, F., & Congestri, R. (2019). Wastewater biofilm photosynthesis in photobioreactors. *Microorganisms*, 7(8). <https://doi.org/10.3390/microorganisms7080252>
- Henze, M. , van Loosdrecht, M. C. M. , Ekama, G. A. , & Brdjanovic, D. (2008). *Biological Wastewater Treatment: Principles, Modelling and Design*.

- Ihadjadene, Y., Kalliadan, S., Laukens, K., Roef, L., Walther, T., Streif, S., & Krujatz, F. (2025). Process modeling and optimization of *Nannochloropsis sp.* towards commercial scale production. *Algal Research*, 90. <https://doi.org/10.1016/j.algal.2025.104196>
- Juliander Suwarsono, S., Kemer, K., Rumengan, A., Manengkey, H., Rumampuk, N., Mamuja Program Studi Ilmu Kelautan, J., & Perikanan dan Ilmu Kelautan, F. (2024). *Growth Profile of Microalgae Chlorella vulgaris in KW21 Media* (Vol. 12, Number 1).
- Kristiawan, O., Lintang Agustin, Z., Aliya Hanupurti, D., Nirwawan, R., & Dian Hendrayanti. (2018). Pengaruh Bikarbonat Terhadap Pertumbuhan Mikroalga *Nannochloropsis sp.* Ssebagai Sumber Biomassa Biofuel. *Agustus*, 52(2), 3–5.
- Ma, X. N., Chen, T. P., Yang, B., Liu, J., & Chen, F. (2016). Lipid production from *Nannochloropsis sp.* *Marine Drugs*, 14(4). <https://doi.org/10.3390/md14040061>
- Madigan, M. T., Bender, K. S., Buckley, D. H., Sattley, W. M., & Stahl, D. A. (2018). *Brock Biology of Microorganisms FIFTEENTH EDITION*.
- Masojídek, J., Torzillo, G., & Koblížek, M. (2013). *Photosynthesis in microalgae. Handbook of Microalgal Culture (2nd ed.)*. .
- Mata, T. M., Martins, A. A., & Caetano, N. S. (2010). Microalgae for biodiesel production and other applications: A review. . *Renewable and Sustainable Energy Reviews* 14.
- Menteri Lingkungan Hidup/ Kepala Badan Pengendalian Lingkungan Hidup Republik Indonesia. (2025). *Peraturan Menteri Lingkungan Hidup / Badan Pengendalian Lingkungan Hidup Republik Indonesia Nomor 11 Tahun 2025*.
- Menteri Pekerjaan Umum Dan Perumahan Rakyat Republik Indonesia. (2017). *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia Nomor 01/Prt/M/2017*.
- Metcalf & Eddy. (2014). *Wastewater Engineering: Treatment and Resource Recovery*. McGraw-Hill.

- Moreno Osorio, J. H., Pinto, G., Pollio, A., Frunzo, L., Lens, P. N. L., & Esposito, G. (2019). Start-up of a nutrient removal system using *Scenedesmus vacuolatus* and *Chlorella vulgaris* biofilms. *Bioresources and Bioprocessing*, 6(1). <https://doi.org/10.1186/s40643-019-0259-3>
- Munfaridah, A., Saraswati, S. P., & Mahathir, J. S. (2022). Pengaruh Sistem Aerasi *Intermittent* terhadap Removal Organik dan Nitrogen pada Pengolahan Air Limbah Domestik Kamar Mandi Umum. *Jurnal Ilmu Lingkungan*, 20(1), 102–114. <https://doi.org/10.14710/jil.20.1.102-114>
- Munoz, R., & Guieysse, B. (2006). Algal–bacterial processes for the treatment of hazardous contaminants: A review. *Water Research*.
- Ødegaard, H. (2006). *The Moving Bed Biofilm Reactor. Water Science and Technology. Water Science and Technology*: 53(9).
- Pacheco, D., Rocha, A. C. S., Garcia, A., Bóia, A., Pereira, L., & Verdelhos, T. (2021). Municipal wastewater: A sustainable source for the green microalgae *Chlorella vulgaris* biomass production. *Applied Sciences (Switzerland)*, 11(5), 1–16. <https://doi.org/10.3390/app11052207>
- Pires, J. C. M., Alvim-Ferraz, M. C. M., Martins, F. G., & Simões, M. (2017). Carbon dioxide capture from flue gases using microalgae. *Engineering in Life Sciences*,.
- Richmond, A., & Hu, Q. (2013). *Handbook of Microalgal Culture The Blaustien Institutes for Desert Research*.
- Sacristan de Alva, M., Oceguera-Vargas, I., Lamas-Cosío, E., León-Aguirre, K., & Arcega-Cabrera, F. (2024). Removal of Nitrogen, Phosphorus, Organic Matter, and Heavy Metals from Pig-Farming Wastewater Using a Microalgae-Bacteria Consortium. *Bulletin of Environmental Contamination and Toxicology*, 113(5). <https://doi.org/10.1007/s00128-024-03962-2>
- Sofiyah, E. S., & Suryawan, I. W. K. (2021). Cultivation of *Spirulina platensis* and *Nannochloropsis sp. oculata* for nutrient removal from municipal wastewater. *Rekayasa*, 14(1), 93–97. <https://doi.org/10.21107/rekayasa.v14i1.8882>
- Spolaore, P., Joannis-Cassan, C., Duran, E., & Isambert, A. (2006). Commercial applications of microalgae. *Journal of Bioscience and Bioengineering*.

- Torzillo, G., & Vonshak, A. (2013). Environmental Stress Physiology with Reference to Mass Cultures. In *Handbook of Microalgal Culture: Applied Phycology and Biotechnology: Second Edition* (pp. 90–113). wiley. <https://doi.org/10.1002/9781118567166.ch6>
- Widyarani, Wulan, D. R., Hamidah, U., Komarulzaman, A., Rosmalina, R. T., & Sintawardani, N. (2022). Domestic wastewater in Indonesia: generation, characteristics and treatment. In *Environmental Science and Pollution Research* (Vol. 29, Number 22, pp. 32397–32414). Springer Science and Business Media Deutschland GmbH. <https://doi.org/10.1007/s11356-022-19057-6>
- Zuhra Mutia. (2022). *Penyisihan Kadar Amonia (Nh 3) Dengan Menggunakan Metode Moving Bed Biofilm Reactor (Mbbr) Sederhana Pada Limbah Industri Pupuk Urea.*