

**DAFTAR PUSTAKA**

- Ahmad, A. L., N. M. Yasin, C. Derek, and J. K. Lim. 2011. Microalgae as a sustainable energy source for biodiesel production: a review. *Renewable and Sustainable Energy Reviews*, 15:584 – 593.
- Andersen, R. A. 2005. *Algal Culturing Techniques*. Elsevier Academic Press. New York, pp. 90-94, 102 – 103.
- Ariyanti, D. dan N. A. Handayani. 2012. Mikroalga sebagai sumber biomassa terbarukan: teknik kultivasi dan pemanenan. *Metana*, 6(2).
- Barkia, I., N. Saari, and S. R. Manning. 2019. Microalgae for high-value products towards human health and nutrition. *Marine Drugs*, 17(5): 3.
- Barsanti, L. R. Vismara, V. Passarelli, and P. Gualtieri. 2001. Paramylon (β -1,3-glucan) content in wild type and WZSL mutant of *Euglena gracilis* effect of growth conditions. *Journal of Applied Phycology*, 13: 59 – 65.
- Barsanti, L., V. Passarelli, V. Evangelista, A. M. Frassanito, and P. Gualtieri. 2011. Chemistry, physic-chemistry and applications linked to biological activities of β -glucans. *Natural Product Reports*, 28: 457 – 466.
- Benedetti, M., V. Vecchi, S. Barera, and L. Dall’Osto. 2018. Biomass from microalgae: the potential of domestication towards sustainable biofactories. *Microbial Cell Factories*, 17(1): 173.
- Borowitzka, M. A., J. Beardall, and J. A. Raven. 2016. *The Physiology of Microalge*. Springer. Switzerland, pp. 3 – 4.
- Budiman, A., R. D. Kusumaningtyas, Y. S. Pradana, dan N. A. Lestari. *Biodiesel: Bahan Baku Proses dan Teknologi*. UGM Press. Yogyakarta, hal. 29.
- Bux, Faizal. 2013. *Biotechnological Applications of Microalga: Biodiesel and Value-Added Products*. CRC Press. Boca Raton, pp. 23, 25.
- Chacón-Lee, T. L and G. González-Marinó. 2010. Microalgae for “healthy” foods – possibilities and challenges. *Comprehensive Reviews in Food Science and Food Safety*, 9: 655 – 656.
- Chen, C. Y., K. L. Yeh, R. Aisyah, D. J. Lee., J. S. Chang. Cultivation, photobioreactor design and harvesting of microalgae for biodiesel production: A critical review. *Bioresource Technology*, 102(1): 71 – 81.
- Coêlho, D. de F., L. L. Tundisi, K. S. Cerqueira, J. R. da S. Rodrigues, P. G. Mazzola, E. B. Tambourgi, and R. R. de Souza. Microalgae: cultivation aspects and bioactive compounds. *Brazilian Archives of Biology and Technology*, 62.
- Cramer, M., and J. Myers. 1952. Growth and photosynthetic characteristics of *Euglena gracilis*. *Archiv Fur Mikrobiologie*, 17(1-4): 386 – 402.
- Daou, C., and H. Zhang. 2012. Oat beta-glucan: its role in health promotion and prevention of diseases. *Comprehensive Reviews in Food Science and Food Safety*, 11(4): 355.
- Dubois, M., K. A. Gilles, J. K. Hamilton, P. A. Rebers, and F. Smith. 1956. Colorimetric method for determination of sugars and related substances. *Analytical Chemistry*, 28(3): 350 – 356.
- Duygu, D. Y., A. U. Udoh, and I. A. Erkaya. 2017. The characteristics and importance of microalgae culture collections. *Süleyman Demirel Üniversitesi Eğirdir Su Ürünleri Fakültesi Dergisi*, 13 (1): 80 – 87.



- Fogg, G. E. and B. Thake. 1987. *Algae Cultures and Phytoplankton Ecology: 3rd Edition*. The University of Winsconsins Press. London.
- Gim, G. H., J. K. Kim, H. S. Kim, M. N. Kathiravan, H. Yang, S. Jeong, S. W. Kim. 2013. Comparison of biomass production and total lipid content of freshwater green microalgae cultivated under various culture conditions. *Bioprocess and Biosystems Engineering*, 37(2): 99 – 106.
- Gissibl, A., A. Sun, A. Care, H. Nevalainen, and A. Sunna. 2019. Bioproducts from *Euglena gracilis*: synthesis dan applications. *Frontiers in Bioengineering and Biotechnology*, 7: 108.
- Grimm, P., J. M. Risse, D. Cholewa, J. M. Muller, U. Beshay, K. Friehs, and E. Flaschel. 2015. Applicability of *Euglena gracilis* for biorefineries demonstrated by the α -tocopherol and paramylon followed by anaerobic digestion. *Journal of Biotechnology*, 215: 72 – 79.
- Hadiyanto dan M. Azim. 2012. *Mikroalga sumber pangan dan energi masa depan*. UPT UNDIP Press. Semarang, hal. 9 – 19.
- Hadiyanto dan M. Azim. 2012. *Mikroalga: sumber pangan dan energi masa depan*. UPT UNDIP Press. Semarang, hal. 11 – 12.
- Isnansetyo, A., dan Kurniastuty. 1995. *Teknik Kultur Phytoplankton Zooplankton: pakan alami untuk pembentahan organisme laut*. Penerbit Kanisius. Yogyakarta.
- Ivusic, F., and B. Santek. 2015. Optimization of complex medium composition for heterotrophic cultivation of *Euglena gracilis* and paramylon production. *Bioprocess Biosystems Engineering*, 38: 1103 – 1112.
- Kabinawa, I. N. K. 2006. *Spirulina ganggang penggemar aneka penyakit*. Agro Media Pustaka. Tangerang, hal. 32 – 33.
- Karnkowska, A., M. S. Bennett, D. Watza, J. I. Kim, B. Zakrys, and R. E. Triemer. 2014. Phylogenetic relationships and morphological character evolution of photosynthetic euglenids (Excavata) inferred from taxon-rich analyses of five genes. *Journal of Eukaryotic Microbiology*, 62(3): 362 – 373.
- Kataoka, H., T. Shimura, T. Mizoshita, E. Kubota, Y. Mori, T. Mizushima, et al. 2009. Lentinan with S-1 and paclitaxel for gastric cancer chemotherapy improve patient quality of life. *Hepatogastroenterology*, 56: 547 – 550.
- Kim, S. K., J. Venkatesan, and P. Manivasagan. 2015. *Handbook of Marine Microalgae Biotechnology Advances*. Academic Press. Oxford, p. 1, 56 - 60.
- Kim, S., L. Donghyun, L. Dohyun, L. Sooyeon, P. Seonghwan, K. Changmin, Y. Jaecheul, and L. Taeho. 2020. Paramylon production from heterotrophic cultivation of *Euglena gracilis* in two different industrial byproducts: corn steep liquor and brewer's spent gtain. *Algal Research*, 47: 101826.
- Kishore, G., A. D. Kadam, A. Daverey, and K. Arunachalam. 2017. Isolation and evaluation of cultivation conditions of *Euglena* sp. from Western Himalaya for biofuel production. *Biofuels*, 9(2): 221 – 228.
- Kiss, J. Z., A. C. Vasconcelos, and R. E. Triemer. 1987. Structure of the euglenoid storage carbohydrate, paramylon. *American Journal of Botany*, 74(6): 877 – 882.
- Koizumi, N., H. Sakagami, A. Utsumi, S. Fujinaga, M. Takeda, K. Asano, and I. Sugawara. 1993. Anti-HIV (Human Immunodeficiency Virus) activitiy of sulfated paramylon. *Antiviral Research*, 21(1): 1 – 14.



- Kottuparambil, S., R. L. Thankamony, and S. Agusti. 2019. *Euglena* as a potential natural source of value-added metabolites. *Algal Research*, 37: 154 – 159.
- Lebene, I., and J. Flaurence. 2018. *Microalgae in Health and Disease Prevention*. Academic Press. Cambridge, p. 24.
- Lee, Y. K. and H. Shen. 2004. Basic culturing techniques. Dalam: Richmond, A. (ed.) *Handbook of Microalgal Culture: Biotechnology and Applied Phycology*. Blackwell Publishing Ltd. Oxford.
- Leedale, G. F. 1964. Pellicle structure in *Euglena*. *British Phycological Bulletin*, 2: 156 – 170.
- Mata, T. M., A. A. Martins, and N. S. Caetano. 2010. Microalgae for biodiesel production and other applications: a review. *Renewable and Sustainable Energy Reviews*, 14:217 – 232.
- Nakashima, A., K. Yamada, O. Iwata, R. Sugimoto, K. Atsuji, T. Ogawa, N. Ishibasi-Ohgo, and K. Suzuki. 2018. β -Glucan in foods and its physiological functions. *Journal of Nutritional Science and Vitaminology*, 64: 8 – 17.
- Niccolai, A., G. C. Zittelli, L. Rodolfi, N. Biondi, and M. R. Tredici. Microalgae of interest as food source: biochemical composition and digestibility. *Algal Research*, 42.
- Nicolas, P., G. Fresyssinet, and V. Nigon. 1980. Effect of light on glucose utilization by *Euglena gracilis*. *Plant Physiology*, 65: 631 – 634.
- O'Neill, E. C., S. Kuhaudomlarp, M. Rejzek, J. U. Fangel, K. Alagesan, D. Kolarich, W. G. T. Willats, and R. A. Field. 2017. Exploring the glycans of *Euglena gracilis*. *Biology 2017*, 6(45): 1 – 2.
- Obgonna, J. C., E. Ichige, H. Tanaka. 2002. Interactions between photoautotrophic and heterotrophic metabolism in photoheterotrophic cultures of *Euglena gracilis*. *Applied Microbiology and Biotechnology*, 58(4): 532 – 538.
- Ooi, V. E., and F. Liu. 2000. Immunomodulation and anti-cancer activity of polysaccharide-protein complexes. *Current Medicinal Chemistry*, 7: 715 – 729.
- Pulz, O., and Gross. 2004. Valuable products from biotechnology of microalgae. *Applied Microbiology and Biotechnology*, 65: 635
- Punchard, N. A. 2011. *Haemocytometer instruction sheet for improving Neubauer Haemocytometer*. University of East London. London.
- Richmond, A. 2004. *Handbook of Microalgal Culture*. Blackwell Science Ltd. Oxford, p. 49.
- Richmond, Amos. 2004. *Handbook of Microalgal Culture: biotechnology and applied phycology*. Blackwell Science Ltd. Oxford, pp. 10 – 11.
- Rodríguez-Zavala, J. S. R., M. A. Ortiz-Cruz, G. Mendoza-Hernandez, and R. Moreno-Sánchez. 2010. Increased synthesis of α -tocopherol, paramylon, and tyrosine by *Euglena gracilis* under conditions of high biomass production. *Journal of Applied Microbiology*, 109(6): 2160 – 2162.
- Sahoo, D., and J. Seckbach. 2015. *The Algae World*. Springer Science+Business Media Dordrecht. London, pp. 3 – 4.
- Sanderson, J. E., D. L. Wise, and D. C. Augenstein. 1978. Organic chemicals and liquid fuels from algal biomass. *Biotechnology and Bioengineering Symposium*, 8:131 – 151.



- Santek, B., M. Felski, K. Friehs, M. Lotz, and E. Flaschel. 2009. Production of paramylon, a β -1,3-glucan, by heterotrophic cultivation of *Euglena gracilis* on a synthetic medium. *Engineering in Life Sciences*, 9(1): 23 – 28.
- Santos-Ballardo, D. U., S. Rossi, V. Hernández, R. V. Gómez, M. C. Rendón-Unceta, J. Caro-Corales, and A. Valdez-Ortiz. 2015. A simple spectrophotometric method for biomass measurement of important microalgae species in aquaculture. *Aquaculture*, 448: 87 – 92.
- Schulze, C., M. Wetzel, J. Reinhardt, M. Schmidt, L. Felten, and S. Mundt. 2016. Screening of microalgae for primary metabolites including β -glucans and the influence of nitrate starvation and irradiance on β -glucan production. *Journal of Applied Phycology*, 28: 2719 – 2725.
- Tan, X., J. Zhu, and M. Wakisaka. 2020. Effect of protocatechuic acid on *Euglena gracilis* growth and accumulation of metabolites. *Sustainability*, 12(21): 9158.
- Viswanathan, Balasubramanian. 2016. *Energy Sources: Fundamentals of Chemical Conversion Processes and Applications*. Elsevier. Amsterdam, pp. 357 – 368.
- Wang, Y., T. Seppanen-Laakso, H. Rischer, and M. G. Wiebe. 2018. *Euglena gracilis* growth and cell composition under different temperature, light, and trophic conditions. *PLOS ONE*, 13(4).
- Wehr, J. D., and R. G. Sheath. 2003. *Freshwater Algae of North America: Ecology and Classification*. Academic Press. San Diego, p. 101.
- Wells, M. L., P. Potin, J. S. Craigie, J. A. Raven, S. S. Merchant, K. E. Helliwell, A. G. Smith, M. E. Camire, S. H. Brawley. 2016. Algae as nutritional and functional food sources: revisiting our understanding. *Journal of Applied Phycology*, 29: 949 – 982.
- Wolken, J. J. 1967. *Euglena: 2nd Edition*. Meredith Publishing Company. New York, pp. 4 – 7.
- Yanuhar, U. 2019. *Budidaya ikan laut “si cantik kerapu”*. UB Press. Malang, hal. 35 – 36.
- Yeh, K. L., J. S. Chang, and W. M. Chen. 2010. Effect of light supply and carbon source on cell growth and cellular composition of a newly isolated microalga *Chlorella vulgaris* ESP-31. *Engineering in Life Science*, 30 (3) : 201 – 208. Yousuf, A. 2020. *Microalgae Cultivation for Biofuels Production*. Elsevier Academic Press. Oxford, pp. 36 – 37.