

## DAFTAR PUSTAKA

- Agustini, N.W.S, dan N. Febrian. 2009. Hidrolisis biomassa mikroalga *Porphyridium cruentum* menggunakan asam ( $H_2SO_4$  dan  $HNO_3$ ) dalam produksi bioetanol. *Jurnal Kimia dan Kemasan*. 41(1): 1-10.
- Akoh, C.C. 2017. Food Lipids: Chemistry, Nutrition, and Biotechnology. Fourth Edition. Boca Raton: CRC Press. Francis.
- Amaro, H.M., G.A. Catarina, and F.M. Xavier. 2011. Advances and Perspectives in Using Microalgae to Produce Biodiesel. *Applied Energi*, 88 (11): 3402–3410.
- Andersen, R.A. 2005. *Algal Culturing Technique*. Elsevier Academic Press. United States.
- Barsanti, L., R.Vismara, V. Passarelli, and P. Gualtieri. 2001. Paramylon ( $\beta$ -1,3-glucan) content in wild type and WZSL mutant of *Euglena gracilis* and Effects of growth conditions. *Application Phycology*, 13 (2): 59–65.
- Bekcer, E.W. 1994. *Microalgae Biotechnology and Microbiology*. Cambridge Univ. Press: 293 pp.
- Bell, P.R, and A.R. Hemsley. 2000. *Green Plants: Their Origin and Diversity*. Cambridge University Press-Science. New York. p: 349.
- Bleakley. S., and M. Hayes. 2017. Algal Proteins: Extraction, Application, and Challenges Concerning Production. *Foods Journal*, 6 (5): 33.
- Bligh, E.G. and W.J. Dyer. 1959. A rapid method for total lipid extraction and purification. *Journal of Biochemistry Physiology*, 37 (1): 911- 917.
- Borowitzka, M.A. and L.J. Borowitzka. 1988. *Microalgal Biotechnology*. Cambridge University Press. Cambridge.
- Buetow, D. E. 1962. Differential Effects of Temperature on the Growth of *Euglena gracilis*. *Experimental Cell Research*, 27 (1): 137–142.
- Buetow, D.E. 1968. The Biology of *Euglena*. Vol.1. Academic Press: New York
- Caporgno, M.P. and A. Mathys. 2018. Trends in Microalgae Incorporation Into Innovative Food Products With Potential Health Benefits. *Frontiers in Nutrition*, 5 (1): 91-98.
- Cardona, A.C. D. Parra and S. Sara. 2017. Perspective of Energy Production From Microalgae: The Biodiesel and Cogeneration Cases. *Renewable Energy*, 1 (1): 1-18.
- Chaidir, Z.S., P.F. Hillman, and R. Zainul. 2016. Isolation and Identification of freshwater microalgae potentially as antibacterial from Talago Biru, Koto Baru, West Sumatera. *Der Pharmacia Lettre*, 8 (20): 157-165.
- Chen, C.Y., X.Q. Zhao, H.W. Yen, S.H. Ho, C.L. Cheng, D.J. Lee, and J.S. Chang. 2013. Microalgae-Based Carbohydrates for *Biofuel* Production. *Biochemical Engineering*, 78 (1): 1–10.
- Cheng, D.L., D. Yuan, Y. Zhou, L. Li, T. Wu, and Y. Sun. 2017. Improving Carbohydrate and Starch Accumulation in *Chlorella* sp. AE10 by a Novel Two-stage Process With Cell Dilution. *Biotechnology for Biofuels*, 10 (1): 64-79.
- Chisti, Y. 2007. *Biodiesel from Microalgae*. Institute of Techonolgy and Engineering. Massey University. 294-306 p.

- Christwardana, M., M.A. Nur, dan Hadiyanto. 2013. *Spirulina platensis*: Potensinya sebagai Bahan Pangan Fungsional. *Jurnal Aplikasi Teknologi Pangan*, 2 (1): 19–22.
- Cramer, M., and J. Myers. 1952. Growth and photosynthetic characteristics of *Euglena gracilis*. *Archiv Fur Mikrobiologie*, 17 (4): 384–402.
- D'Alessandro, E.B and F.N.R. Antoniosi. 2015. Concepts and Studies on Lipid and Pigments of Microalgae: A Review. *Renew Sustain Energy Rev*, 58 (1): 832.
- Danilov, R. A., and N.G.A. Ekelund. 2001. Effects of pH on The Growth Rate, Motility and Photosynthesis in *Euglena gracilis*. *Folia Microbiologica*, 46 (6): 549–554.
- Danilov, R., & N. Ekelund. 2000. Applicability of growth rate, cell shape, and motility of *Euglena gracilis* as physiological parameters for bioassess- ment at lower concentrations of toxic substances: an experimental approach. *Environmental Toxicology*. 16: 78–83.
- Danilov, R.A., & G.A. Ekelund. 2001. Effects of pH on the growth rate, motility and photosynthesis in *Euglena gracilis*. *Folia Microbiologica*. 46(6):549-554.
- Domozych, D.S., M. Ciancia, J.U. Fangel, M.D. Mikkelsen, P. Ulvskov, and W.G.T. Willats. 2018. The Cell Walls of Green Algae: A Journey Through Evolution and Diversity. *Plant Science Journal*, 3 (1): 82-86.
- Dubois, M., K.A. Gilles, J.K. Hamilton, P.A. Rebers, and F. Smith. 1956. *Colorimetric Method for Determination of Sugars and Related Substances*, 350–56.
- Estruch, R., E. Ros, J. Salas-Salvadó, M.I. Covas, D. Corella, And F. Arós. 2013. Primary Prevention of Cardiovascular Disease With A Mediterranean Diet. *Journal of Medicine*, 90 (1): 321-330.
- Ferreira, G. F., L. F. Ríos Pinto, F.R. Maciel, and L.V. Fregolente, 2019. A review on Lipid Production from Microalgae: Association Between Cultivation Using Waste Streams and Fatty Acid Profiles. *Renewable and Sustainable Energy Reviews*, 9 (1): 448–466.
- Forget, N., B. Claude, R. Pierre, and N. Christian. 2014. Teaching the Microbial Growth Curve Concept Using Microalgal Cultures and Flow Cytometry. *Journal of Biological Education*, 44 (4): 185-189.
- Gibbs, S. P. 1978. The Chloroplasts of *Euglena* May Have Evolved from Symbiotic Green Algae. *Canadian Journal of Botany*, 56 (22): 2883–288.
- Gissibl, A., A. Care, L.M. Parker, S. Iqbal, G. Hobba, H. Nevalainen. 2018. Microwave Pretreatment of Paramylon Enhances the Enzymatic Production of Soluble  $\beta$ -1,3-glucans with Immunostimulatory Activity. *Biotechnol Journal*, 19 (6): 339-347.
- Gissibl, A., A.A. Sun, H.S.A. Nevalainen. 2019. Bioproducts from *Euglena gracilis*: Synthesis and Applications. *Biotechnol Journal*, 7 (1): 108-114.
- Hadiyanto. W., A. Kumoro, and Cahyo. 2012. Potency of Microalgae as Biodiesel Source in Indonesia. *International Journal of Renewable Energy Development*, 1(1): 23-27.
- Handayani, T. A. Mulyanto, N. Sopiah. 2014. Penyerapan Emisi Co<sub>2</sub> Oleh Mikroalga *Euglena* sp. dengan Bioreaktor Kolam Kultur. *Jurnal Ecolab*, 8 (1): 1-9.
- Harmoko, dan Y. Krisnawati. 2018. Keanekaragaman Mikroalga Divisi Cyanobacteria di Danau AUR Musi Rawas. *Jurnal Biodjati*, 3 (1): 8-14.

- Harmoko, H, dan S. Sepriyaningsih. 2017. Keanekaragaman Mikroalga di Sungai Kati Kota Lubuklinggau. *Scripta Biologica*, 4 (3): 201–205.
- Harun, R., M. Singh, G.M. Forde, and M.K. Danquah. 2010. Bioprocess Engineering of Microalgae to Produce a Variety of Consumer Products. *Renewable and Sustainable Energy Reviews*, 14 (1): 1037–1047.
- Hayashi, M., K. Toda, H. Ishiko, R. Komatsu and S. Kitaoka. 1994. Effects of Shifting pH in the Stationary Phase of Growth on the Chemical Composition of *Euglena gracilis*. *Bioscience, Biotechnology, and Biochemistry*, 58 (11): 1964–1967.
- Heimann, K, and R. Huerlimann. 2015. *Microalgal Classification: Major Classes and Genera of Commercial Microalgal Species*. Handbook of Marine Microalgae. Elsevier. United States. p.25–31.
- Huntley, M.E., and D.G. Radalje. 2007. CO<sub>2</sub> Mitigation and Renewable Oil from Photosynthetic Microbe. *Mitigation and Adaptation Strategies for Global Change*. 12: 578–608.
- Irharni, E., V. Viena. 2014. Kultivasi mikroalga hijau pada sumber nitrogen berbeda untuk ekstraksi lipida. *Jurnal Purifikasi*. 14 (2) : 99–105.
- Isnadina, D. R., N. Fitriani, N. Citrasari, and A. Soegianto. 2019. Effectiveness of fungi to remove nitrogen and phosphorus in domestic waste water. *Pollution Research*. 1(1): 59–64.
- Jones, C. R., and J. R. Cook, 1978. Culture pH, CO<sub>2</sub> Tension, and Cell Division in *Euglena gracilis* Z. *Journal of Cellular Physiology*, 96(2): 253–259.
- Kawabata, A., M. Kaneyama. 1989. The effect of growth temperature on wax ester content and composition of *Euglena gracilis*. *Journal of Genetic Microbiology*. 135: 1461–1467.
- Kawaroe, M., T. Prartono, A. Rachmat, D.W. Sari, and D. Augustine. 2012. Laju Pertumbuhan Spesifik dan Kandungan Asam Lemak pada Mikroalga *Spirulina platensis*, *Isochrysis* sp. dan *Porphyridium cruentum*. Bogor: IPB Press.
- Kawaroe, M., T. Prartono, A. Sunuddin, S.D. Wulan, dan D. Augustine. 2010. *Mikroalga Potensi dan Pemanfaatannya untuk Produksi Bio Bahan Bakar*. Bogor: IPB Press.
- Laurens, L.M., T.A. Dempster, H.D. Jones, E.J. Wolfrum, S. Wychen, J.S. McAllister, M. Rencenberger, K.J. Parchert, and L.M. Gloe. 2012. Algal Biomass Constituent Analysis: Method Uncertainties and Investigation of The Underlying Measuring Chemistries. *Analysis Chemistry*. 84:1879–87
- Lehninger, A., D. Nelson, and M. Cox. 2005. *Lehninger Principles of Biochemistry*, 4th ed. Freeman. New York.
- Markou, G., I. Angelidaki, and D. Georgakakis. 2012. Microalgal carbohydrates: an Overview of The Factors Influencing Carbohydrates Production, and of Main Bioconversion Technologies for Production of *Biofuels*. *Applied Microbiology and Biotechnology*. 96(3): 631–645.
- Masojidek, J., M. Kobližek, and G. Torzillo. 2004. *Photosynthesis in Microalgae*. In: *Richmont A (ed) Handbook of Microalgal Culture: Biotechnology and Applied Phycology*. Blackwell Publishing Lt. Oxford. pp 20–39.
- Moorhead, K., and B. Capelli. 2011. *Spirulina Nature's Superfood*. 3rd Ed. Kailua-Kona, Hawaii: Cyanotech Corporation.

- Nemerow, N. L. 1991. *Strem, Lake, Estuary, and Ocean Pollution*. Second Edition. Van Nostrand Reinhold, New York.
- Nurhayati, T., B. H. Mochamad, dan L. Musthofa. 2013. Penggunaan Fotobioreaktor Sistem Batch Tersirkulasi Terhadap Tingkat Pertumbuhan Mikroalga *Chlorella vulgaris*, *Chlorella* sp. dan *Nannochloropsis oculata*. *Jurnal Keteknikaan Pertanian Tropis dan Biosistem*. 1(3): 249-257.
- Ogawa, T., M. Tamoi, A. Kimura, A. Mine, H. Sakuyama, E. Yoshida. 2015. Enhancement of photosynthetic capacity in *Euglena gracilis* by expression of cyanobacterial fructose-1,6-/sedoheptulose-1,7-bisphosphatase leads to increases in biomass and wax ester production. *Biotechnology Biofuels*. 8: 80.
- Ogbonna, J.C., E. Ichige, and H. Tanaka. 2002. Interactions between photoautotrophic and heterotrophic metabolism in photoheterotrophic cultures of *Euglena gracilis*. *Applied Microbiology*. 58(1): 532–538.
- Olaizola, M. 2004. Commercial Development of Microalgal Biotechnology: From the Test Tube to the Marketplace. *Journal of Biomolecular*. 20(2): 459-466.
- Olson, J. A., and N.I. Krinsky. 1995. Introduction. The Colorful, Fascinating World of the Carotenoids: Important Physiologic Modulators. *FASEB Journal*. 9(1):1547–1550.
- Panggabean dan G. M. Lily, 1998. Mikroalgae: Alternatif Pangan dan Bahan Industri di Masa Mendatang. *Oseana Journal*, 23(1):19-26.
- Patmawati, B.I., S. Iriani, dan S. Untung. Produksi biodiesel dari biomassa *Chlamydomonas* sp. dikultivasi menggunakan media yang murah: efektifitas dari beberapa metode ekstraksi. *Widyariset*. 17 (2): 269–276.
- Pavlečić, M., D. Crnić, E. Jurković, M. I. Šantek, T. Rezić, and B. Šantek. 2018. Heterotrophic Cultivation of *Euglena Gracilis* on Chemically Pretreated Media. *Brazilian Journal of Chemical Engineering*. 35(1): 19–26.
- Prakash, S., and B.V. Bhimba. 2004. Pharmaceutical Development of Novel Microalgal Compounds for *Mycobacterium tuberculosis*. *Natural product radiance*. 4 (4): 264-269.
- Pratiwi. 2007. Protein Vitamin Dan Bahan Pangan. Gajah Mada University Press, Yogyakarta.
- Princen, L.H., 1982, Economic Botany, Vol 36, 302-312.
- Richmond, A. 2003. *Handbook of Microalgal Culture: Biotechnology and Applied Phycology*. WILEY.
- Russo, R., L. Barsanti, V. Evangelista, A.M. Frassanito, V. Longo, and L. Pucci. 2017. *Euglena gracilis* Paramylon Activates Human Lymphocytes by Upregulating Pro-inflammatory Factors. *Food Science Nutrition Journal*. 5: 205–214.
- Sheehan, J., T. Dnahay, J. Benemann. And P. Roessler. 1998. Energy's Aquatic Species Program Biodiesel from Algae. *US DEO of Fuels Development*.
- Singh, J and G. Sai. 2010. Commercialization Potential Of Microalgae For *Biofuels* Production. *Renewable and Sustainable Energy Journal*. 14(20): 2596-2610.
- Skill, S. 2007. Microalgae *Biofuels*. Marine Futures Conferenc. *National Marine Aquarium Journal*. 18(1): 54-65.
- Spellman, F.R. 1999. Microbiology for Water and Wastewater Operators: Euglenoid. CRC Press-Technology & Engineering. USA. p: 209.



- Steven D. S., and S. Shigeru. 2017. *Euglena: Biochemistry, Cell and Molecular Biology*. Springer Science. New york. p: 303.
- Suzuki, K. 2017. Large-Scale Cultivation of *Euglena*. *Euglena: Biochemistry, Cell and Molecular Biology*.p:285–293.
- Suzuki, K., S. Mitra. O. Iwata, T. Ishikawa, S. Kato, and K. Yamada. 2015. Selection and Characterization of *Euglena anabaenavar*. Minoras a New Candidate *Euglena* Species for Industrial Application. *Bioscience, Biotechnology and Biochemistr Journal*. 79(10): 1730–1736.
- Taw. 1990. *Instructions for maintaining Pure and Mass Microalgae Culture*. United Nations Development Programme. Food and Agriculture Organisations of the United Nations.
- Torihara, K., and N. Kishimoto. 2015. Evaluation of Growth Characteristics of *Euglena gracilis* for Microalgal Biomass Production Using Wastewater. *Journal of Water and Environment Technology*. 13(3): 195–205.
- Vitova, M. , K. Bisova, S. Kawano, and V. Zachleder. 2015. Accumulation of Energy Reserves in Algae: From Cell Cycles to Biotechnological Applications. *Biotechnology Advances*. 33(6): 1204–1218.
- Wang, G.Y., Wang, and X.X.H. Liu. 2011. Two-Stage Hydrolysis Of Invasive Algal Feedstock for Ethanol Fermentation. *Journal of Plant Biology*. 53(1): 246–252.
- Wang, Y., T Seppänen-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): 1-15.
- Wolowski, K. 2002. *The Freshwater Algal Flora of the British Isles: An Identification Guide to Freshwater and Terrestrial Algae-Euglenophyta*. Cambridge University Press. New York. p:103-116.
- Yamada, T., and K. Sakaguchi. 1982. Comparative Studies on Chlorella Cell Walls-induction of Protoplast Formation. *Microbiology Journal*. 132 (1): 10–13.
- Zhu, L.D., Z.H. Li, and E. Hiltunen. 2016. Strategies for Lipid Production Improvement in Microalgae as a Biodiesel Feedstock. *BioMed Research International*. 1(2): 1–8.
- Sachlan, M. 1982. Planktonologi. Fakultas Peternakan dan Perikanan Universitas Diponegoro. Semarang. p: 117.
- Sidabutar, E. A. 1999. *Pengaruh Jenis Medium Pertumbuhan Mikroalga Chlorella sp. Terhadap Aktivitas Senyawa Pemacu Pertumbuhan Yang Dihasilkan*. Skripsi. Program Studi Teknologi Hasil Perikanan. Fakultas Perikanan dan Ilmu Kelautan. IPB.
- Schlegel, Hans. 1994. *Mikrobiologi Umum Edisi Keenam*. Gajah Mada University Press. Yogyakarta.
- Cotteau, P. 1996. Microalgae: Manual On Production and Use Of Live Food For Aquaculture. *FAO Fisheries Technical Paper*. Roma: Sorgeloos Edition.
- Vasquez-Duhalt, R., Arredondo-Vega B.Q. 1991. Oil Production From Microalgae Under Saline Stress. Biomassa For Energy and Industry 5 th E.C. *Conference: Policy, Environment, Production and Harvesting*. 1:547-551.