



## DAFTAR PUSTAKA

- Agbor, G., & Vinson, J. (2014). Folin-Ciocalteu Reagent for Polyphenolic Assay. *International Journal of Food Science, Nutrition and Dietetics (IJFS)*, 2(8), 1–11. <https://doi.org/10.19070/2326-3350-1400028>
- Akao, P. K., Singh, B., Kaur, P., Sor, A., & Avni, A. (2021). Coupled Microalgal – Bacterial Biofilm for Enhanced Wastewater Treatment Without Energy Investment. *Journal of Water Process Engineering*, 41(1), 1–9. <https://doi.org/10.1016/j.jwpe.2021.102029>
- Akonjuen, B. M., & Aryee, A. N. A. (2023). Novel Extraction and Encapsulation Strategies for Food Bioactive Lipids to Improve Stability and Control Delivery. *Elsevier: Food Chemistry Advance*, 3(11), 1–11.
- Al Hinai, M., Al Kalbani, A., Al Rubkhi, B., Al Kalbani, U., & Walke, S. (2019). Protein Extraction from spirulina platensis. *International Journal of Innovative Technology and Exploring Engineering*, 8(12), 1524–1530. <https://doi.org/10.35940/ijitee.L3110.1081219>
- Albalasmeh, A. A., Berhe, A. A., & Ghezzehei, T. A. (2013). A New Method for Rapid Determination of Carbohydrate and Total Carbon Concentrations using UV Spectrophotometry. *Carbohydrate Polymers*, 97(2), 253–261. <https://doi.org/10.1016/j.carbpol.2013.04.072>
- Amaral, H., Rizzi, E. S., Alves-lobes, R., Pinheiro, L. C., Tostes, R. C., & Tanus-santos, J. E. (2019). Free Radical Biology and Medicine Antioxidant and Antihypertensive Responses to Oral Nitrite Involves Activation of the Nrf2 Pathway. *Elsevier*, 141(May), 261–268. <https://doi.org/10.1016/j.freeradbiomed.2019.06.028>
- Amer, S. A., Attia, G. A., Aljahmany, A. A., Mohamed, A. K., Ali, A. Al, Gouda, A., Alagmy, G. N., Megahed, H. M., Saber, T., & Farahat, M. (2022). Effect of 1,3-Beta Glucans Dietary Addition on the Growth, Intestinal Histology, Blood Biochemical Parameters, Immune Response, and Immune Expression of CD3 and CD20 in Broiler Chickens. *Animals*, 12, 3197.
- Andriawan, S., Zubaidah, A., Setiani, F. S., Wananda, A. Z. J., Baihaqi, A. U., & Calvin, D. (2021). Tempe Liquid Waste as Hydroponic Fertilizer in Sanan Village, Malang. *Jurnal Dedikasi*, 18(2), 12–19.
- Ansilago, M., Ramos, M. M., Mussury, R. M., & Carvalho, E. M. de. (2021). Enhancing Secondary Metabolite Production by *Chlorella sorokiniana* using an Alternative Medium with Vinasse. *Research, Society and Development*, 10(5), 1–11. <https://doi.org/10.33448/rsd-v10i5.15237>
- Antonio Lutz Advisors, G., Giacomo Cao, I., & Alessandro Concas, I. (2022). Analysis of the Growth of Microalgae in Batch and Semi-Batch Photobioreactors. *Uniwersytet Śląski*, 343–354. <https://iris.unica.it/handle/11584/266200>
- Aoe, S., Yamanaka, C., Nishioka, M., Onaka, N., Nishida, N., & Takahashi, M. (2019). Effects of Paramylon Extracted from *Euglena gracilis* EOD-1 on Parameters Related to Metabolic Syndrome in Diet-Induced Obese Mice. *Nutrients*, 11(7), 1–13. <https://doi.org/10.3390/nu11071674>



- Aoyagi, W. S. A. (2022). *History of Tempeh and Tempeh Products (1815-2022): Extensively Annotated Bibliography and Sourcebook*. <https://books.google.co.id/books?id=xPJcEAAAQBAJ>
- Asiandu, A. P., Nugroho, A. P., Naser, A. S., Sadewo, B. R., Koerniawan, M. D., Budiman, A., Siregar, U. J., Suwanti, L. T., & Suyono, E. A. (2023). The Effect of Tofu Wastewater and pH on the Growth Kinetics and Biomass Composition of *Euglena* sp. *Current Applied Science and Technology*, 23(2). <https://doi.org/10.55003/cast.2022.02.23.010>
- Assunção, M. F. G., Amaral, R., Martins, C. B., Ferreira, J. D., Ressurreição, S., Santos, S. D., Varejão, J. M. T. B., & Santos, L. M. A. (2017). Screening Microalgae as Potential Sources of Antioxidants. *Journal of Applied Phycology*, 29(2), 865–877. <https://doi.org/10.1007/s10811-016-0980-7>
- Atiku, H., Mohamed, R., Al-Gheethi, A., Wurochekke, A., & Kassim, A. H. M. (2016). Harvesting of Microalgae Biomass from the Phycoremediation Process of Greywater. *Environmental Science and Pollution Research*, 23(24), 24624–24641. <https://doi.org/10.1007/s11356-016-7456-9>
- Barsanti, L., Ciurli, A., Birindelli, L., & Gualtieri, P. (2021). Remediation of Dairy Wastewater by *Euglena gracilis* WZSL Mutant and  $\beta$ -Glucan Production. *Journal of Applied Phycology*, 33(1), 431–441. <https://doi.org/10.1007/s10811-020-02314-x>
- Barus, T., Maya, F., & Hartanti, A. T. (2019). Peran Beberapa Galur *Rhizopus microsporus* yang Berasal dari “Laru Tradisional” dalam Menentukan Kualitas Tempe. *Jurnal Aplikasi Teknologi Pangan*, 8(1), 17–22. <https://doi.org/10.17728/jatp.3761>
- Beneragama, C. K., Goto, K., & Kumara, G. D. K. (2020). Involvement of Non-Enzymatic Antioxidants in Circadian Rhythm Amplitudes of UV-C Resistance in *Euglena gracilis* klebs. *Journal of Agricultural Sciences - Sri Lanka*, 15(3), 434–442. <https://doi.org/10.4038/jas.v15i3.9034>
- Bhattad, T., Koradiya, A., & Prakash, G. (2021). Prebiotic Activity of Paramylon Isolated From Heterotrophically Grown *Euglena Gracilis*. *Heliyon*, 7(9), e07884. <https://doi.org/10.1016/j.heliyon.2021.e07884>
- Calvani, M., Pasha, A., & Favre, C. (2020). Nutraceutical Boom in Cancer: Inside the Labyrinth of Reactive Oxygen Species. *International Journal of Molecular Sciences*, 21(6). <https://doi.org/10.3390/ijms21061936>
- Caprio, F. Di, Pipitone, L. M., Altimari, P., & Pagnanelli, F. (2021). Extracellular and Intracellular Phenol Production by Microalgae during Photoautotrophic Batch Cultivation. *New BIOTECHNOLOGY*, 62(June 2020), 1–9. <https://doi.org/10.1016/j.nbt.2020.12.003>
- Caretto, S., Linsalata, V., Colella, G., Mita, G., & Lattanzio, V. (2015). Carbon Fluxes between Primary Metabolism and Phenolic Pathway in Plant Tissues under Stress. *International Journal of Molecular Sciences*, 16(September), 26378–26394. <https://doi.org/10.3390/ijms161125967>
- Casas-Arrojo, V., Arrojo Agudo, M. de los Á., Cárdenas García, C., Carrillo, P., Pérez Manríquez, C., Martínez-Manzanares, E., & Abdala Díaz, R. T. (2022). Antioxidant, Immunomodulatory and Potential Anticancer Capacity of Polysaccharides (Glucans) from *Euglena gracilis* G.A. Klebs.



- Pharmaceuticals*, 15(11). <https://doi.org/10.3390/ph15111379>
- Cervantes-Garcia, D., Troncoso-Rojas, R., Sánchez-Estrada, A., González-Mendoza, D., & Grimaldo-Juarez, O. (2013). Production of Phenolics and Flavonoids Compounds in *Euglena gracilis* under Copper Stress. *Journal of Pure and Applied Microbiology*, 7(1), 93–100.
- Cervantes-Garcia, D., Troncoso-Rojas, R., Sánchez-Estrada, A., Gonzálezmendoza, D., Gutierrez-Miceli, F., Ceceña-Duran, C., & Grimaldo-Juarez, O. (2016). Effect of Cadmium on Total Phenolic Compounds and Flavonoids in *Euglena gracilis*. *Gayana*, 80(1), 1–5. <https://doi.org/10.4067/S0717-65382016000100001>
- Chandel, N. S. (2021). Lipid Metabolism. In *Navigating Metabolism*. <https://doi.org/10.1101/cshperspect.a040576>
- Chiranjeevi, P., & Mohan, S. V. (2016). Critical Parametric Influence on Microalgae Cultivation Towards Maximizing Biomass Growth with Simultaneous Lipid Productivity. *Renewable Energy*, 98, 64–71. <https://doi.org/10.1016/j.renene.2016.03.063>
- Cho, K., Lee, C., Ko, K., Lee, Y., Kim, K., Kim, M., Chung, Y., Kim, D., Yeo, I., & Oda, T. (2016). Use of Phenol-Induced Oxidative Stress Acclimation to Stimulate Cell Growth and Biodiesel Production by the Oceanic Microalga *Dunaliella salina*. *ALGAL*, 17, 61–66. <https://doi.org/10.1016/j.algal.2016.04.023>
- Chokshi, K., Pancha, I., Ghosh, A., & Mishra, S. (2017). *Oxidative Stress-Induced Bioprospecting of Microalgae*. <https://doi.org/10.1007/978-3-319-62094-7>
- Church, J., Hwang, J. H., Kim, K. T., McLean, R., Oh, Y. K., Nam, B., Joo, J. C., & Lee, W. H. (2017). Effect of Salt Type and Concentration on The Growth and Lipid Content of *Chlorella vulgaris* in Synthetic Saline Wastewater for Biofuel Production. *Bioresource Technology*, 243, 147–153. <https://doi.org/10.1016/j.biortech.2017.06.081>
- Çimen, I., Kocatürk, B., Koyuncu, S., Tufanl, Ö., Onat, U. I., Asli, D. Y., Apayd, O., Demirsoy, Ş., Aykut, Z. G., Nguyen, U. T., Watkins, S. M., Hotam, G. S., & Erbay, E. (2016). Prevention of Atherosclerosis by Bioactive Palmitoleate through Suppression of Organelle Stress and Inflammasome Activation. *Science Translational Medicine*, 8(358), 1–15.
- Coley, P. D., Bryant, J. P., & Chapin, F. S. (1985). Resource Availability and Plant Antiherbivore Defense. *SCIENCE*, 230(4728), 895–899.
- Danilov, R. A., & Ekelund, N. G. A. (2001). Effects of pH on the Growth Rate, Motility and Photosynthesis in *Euglena gracilis*. *Folia Microbiologica*, 46(6), 549–554. <https://doi.org/10.1007/BF02818001>
- Dina Yunita, N. L. G., Wrasiaty, L. P., & Suhendra, L. (2018). Karakteristik Senyawa Bioaktif Ekstrak Selada Laut (*Ulva lactuca* L.) pada Konsentrasi Pelarut Etanol dan Lama Ekstraksi. *Jurnal Rekayasa Dan Manajemen Agroindustri*, 6(3), 189. <https://doi.org/10.24843/jrma.2018.v06.i03.p01>
- Ding, B., Zheng, J., Wang, X., Zhang, L., Sun, D., Xing, Q., Pirone, A., & Fronte, B. (2019). Effects of Dietary Yeast Beta-1,3-1,6-Glucan on Growth Performance, Intestinal Morphology and Chosen Immunity Parameters Changes in Haidong Chicks. *Asian-Australasian Journal of Animal Sciences*,



- 32(10), 1558–1564. <https://doi.org/10.5713/ajas.18.0962>
- EnAlgae. (2015). *EnAlgae in Conclusion : Products and Impacts*.
- Esters, M. (2011). Cetane Number Prediction of Biodiesel from the Composition of the Fatty Acid Methyl Esters. *J. Am Oil Chem Soc*, 88, 415–423. <https://doi.org/10.1007/s11746-010-1672-0>
- Fan, P., Li, Y., Deng, R., Zhu, F., Cheng, F., Song, G., Mi, W., & Bi, Y. (2022). Mixotrophic Cultivation Optimization of Microalga *Euglena pisciformis* AEW501 for Paramylon Production. *Marine Drugs*, 20(8). <https://doi.org/10.3390/md20080518>
- Ferdous, U. T., & Balia Yusof, Z. N. (2021). Insight into Potential Anticancer Activity of Algal Flavonoids: Current status and Challenges. *Molecules*, 26(22), 1–12. <https://doi.org/10.3390/molecules26226844>
- Ferdous, U. T., & Yusof, Z. N. B. (2021). Medicinal Prospects of Antioxidants From Algal Sources in Cancer Therapy. *Frontiers in Pharmacology*, 12(March), 1–22. <https://doi.org/10.3389/fphar.2021.593116>
- Ferreira, R., Lourenço, S., Lopes, A., Andrade, C., Câmara, J. S., Castilho, P., & Perestrelo, R. (2021). Evaluation of Fatty Acids Profile as a Useful Tool Towards Valorization of By-Products of Agri-Food Industry. *Foods*, 10(11). <https://doi.org/10.3390/foods10112867>
- Feuzing, F., Mbakidi, J. P., Marchal, L., Bouquillon, S., & Leroy, E. (2022). A Review of Paramylon Processing Routes from Microalga Biomass to Non-Derivatized and Chemically Modified Products. *Carbohydrate Polymers*, 288(January). <https://doi.org/10.1016/j.carbpol.2022.119181>
- Fisheries, F. (1996). *Manual on the Production and Use of Live Food for Aquaculture*.
- Food and Agriculture Organization of The United Nations. (2021). *The State of The World's Land and Water Resources for Food and Agriculture*.
- Frigolet, M. E., & Gutierrez-Aguilar, R. (2017). The Role of the Novel Lipokine Palmitoleic Acid in Health and Disease. *American Society for Nutrition*, 8, 1735–1875.
- Fu, Y., Chen, T., Chen, S. H. Y., Liu, B., Sun, P., Sun, H., & Chen, F. (2021). The Potentials and Challenges of Using Microalgae as an Ingredient to Produce Meat Analogues. *Trends in Food Science and Technology*, 112(September 2020), 188–200. <https://doi.org/10.1016/j.tifs.2021.03.050>
- Gill, S. S., Mehmood, M. A., Ahmad, N., Ibrahim, M., Rashid, U., Ali, S., & Nehdi, I. A. (2016). Strain Selection, Growth Productivity and Biomass Characterization of Novel Microalgae Isolated from Fresh and Wastewaters of upper Punjab, Pakistan. *Frontiers in Life Science*, 9(3), 190–200. <https://doi.org/10.1080/21553769.2016.1204957>
- Gissibl, A., Sun, A., Care, A., Nevalainen, H., & Sunna, A. (2019). Bioproducts From *Euglena gracilis*: Synthesis and Applications. *Frontiers in Bioengineering and Biotechnology*, 7(May), 1–16. <https://doi.org/10.3389/fbioe.2019.00108>



- Goiris, K., Colen, W. Van, Wilches, I., León-tamariz, F., Cooman, L. De, & Muylaert, K. (2015). Impact of Nutrient Stress on Antioxidant Production in Three Species of Microalgae. *ALGAL*, 7, 51–57. <https://doi.org/10.1016/j.algal.2014.12.002>
- Gopinath, A., Sairam, K., Velraj, R., & Kumaresan, G. (2015). Effects of The Properties and The Structural Configurations of Fatty Acid Methyl Esters on The Properties of Biodiesel Fuel: A Review. *J. Automobile Engineering*, 229(3), 357–390. <https://doi.org/10.1177/0954407014541103>
- Grubišić, M., Ivančić Šantek, M., & Šantek, B. (2019). Potential of Microalgae for the Production of Different Biotechnological Products. *Chemical and Biochemical Engineering Quarterly*, 33(2), 161–181. <https://doi.org/10.15255/CABEQ.2019.1657>
- Gu, X., Cao, L., Wu, X., Li, Y., Hu, Q., & Han, D. (2021). A Lipid Bodies-Associated Galactosyl Hydrolase is Involved in Triacylglycerol Biosynthesis and Galactolipid Turnover in the Unicellular Green Alga *Chlamydomonas reinhardtii*. *Plants*, 10(4). <https://doi.org/10.3390/plants10040675>
- Gunawan-Puteri, M. D. P. T., Fortunata, S. A., Mursito, E., & Wijaya, C. H. (2019). Application of Quick Tempe Technology for Production of Overripe Tempe. *IOP Conference Series: Earth and Environmental Science*, 292(1). <https://doi.org/10.1088/1755-1315/292/1/012060>
- Guo, K., Shang, Y., Gao, B., Xu, X., Lu, S., & Qi, Q. (2018). Study on the Treatment of Soybean Protein Wastewater by a Pilot - Scale IC-A/O Coupling Reactor. *Chemical Engineering Journal*, 343(February), 189–197. <https://doi.org/10.1016/j.cej.2018.02.128>
- Gupta, S. P., Tiwari, P., & Sharma, B. (2022). Protective Effect of Methanolic Extract of *Euglena tuba* Against Dalton Lymphoma Induced Oxidative Stress in BALB/c Mice. *Indian Journal of Clinical Biochemistry*, 37(4), 410–422. <https://doi.org/10.1007/s12291-021-01011-x>
- Häder, D. P., & Hemmersbach, R. (2022). *Euglena*, a Gravitactic Flagellate of Multiple Usages. *Life*, 12(10), 1–21. <https://doi.org/10.3390/life12101522>
- Halliwel, B. (1987). Oxidative Damage, Lipid Peroxidation and Antioxidant Protection in Chloroplast. In *Chemistry and Physics of Lipids* (Vol. 44, pp. 327–340).
- Hamidian, N., & Zamani, H. (2022). Biomass Production and Nutritional Properties of *Chlorella sorokiniana* Grown on Dairy Wastewater. *Journal of Water Process Engineering*, 47(April), 102760. <https://doi.org/10.1016/j.jwpe.2022.102760>
- Haraguchi, A., & Zheng, J. (2021). Effect of pH on Photosynthesis of *Euglena mutabilis* Schmitz, an Acidophilic Benthic Flagellate. *Hydrobiology*, 1(1), 2–9. <https://doi.org/10.3390/hydrobiology1010002>
- Harwood, J. L. (2019). Algae: Critical Sources of Very Long-Chain Polyunsaturated Fatty Acids. *Biomolecules*, 1, 1–14.
- Husna, F., Rachmawati, B., Samudra, T. T., Pradana, Y. S., Budiman, A., & Suyono, E. A. (2020). Effectivity of Various Media for Biomass and Lipid Production of Mixed Culture of Glagah in Open Pond. *AIP Conference Proceedings*, 2260. <https://doi.org/10.1063/5.0016181>



- Ieiri, H., Kameda, N., Naito, J., Kawano, T., Nishida, N., Takahashi, M., & Katakura, Y. (2021). Paramylon Extracted from *Euglena gracilis* EOD-1 Augmented the Expression of SIRT1. *Cytotechnology*, *73*(5), 755–759. <https://doi.org/10.1007/s10616-021-00494-z>
- Ife, R., & Haslam, E. (1971). The Stereochemical Course of the L-Phenylalanine Amonia Lyase Reaction. *J. Chem. SOC. (C)*, *2818*, 2818–2821.
- Indahsari, H. S., Tassakka, A. C. M. A. R., Dewi, E. N., Yuwono, M., & Suyono, E. A. (2022). Effects of Salinity and Bioflocculation during *Euglena* sp. Harvest on the Production of lipid, Chlorophyll, and Carotenoid with *Skeletonema* sp. as a Bioflocculant. *Journal of Pure and Applied Microbiology*, *16*(4), 2901–2911. <https://doi.org/10.22207/JPAM.16.4.65>
- Ivušić, F., & Šantek, B. (2015). Optimization of Complex Medium Composition for Heterotrophic Cultivation of *Euglena gracilis* and Paramylon Production. *Bioprocess and Biosystems Engineering*, *38*(6), 1103–1112. <https://doi.org/10.1007/s00449-015-1353-3>
- Izadpanah, M., Gheshlaghi, R., Mahdavi, M. A., & Elkamel, A. (2018). Effect of Light Spectrum on Isolation of Microalgae from Urban Wastewater and Growth Characteristics of Subsequent Cultivation of the Isolated Species. *Algal Research*, *29*(November 2017), 154–158. <https://doi.org/10.1016/j.algal.2017.11.029>
- Jendresen, C. B., Stahlhut, S. G., Li, M., Gaspar, P., Siedler, S., Förster, J., Maury, J., Borodina, I., & Nielsen, A. T. (2015). Highly Active and Specific Tyrosine Ammonia-Lyases from Diverse Origins Enable Enhanced Production of Aromatic Compounds in Bacteria and *Saccharomyces cerevisiae*. *Applied and Environmental Microbiology*, *81*(13). <https://doi.org/10.1128/AEM.00405-15>
- Jeong, H., Park, J., & Kim, H. (2013). Determination of NH<sub>4</sub><sup>+</sup> in Environmental Water with Interfering Substances Using the Modified Nessler Method. *Journal of Chemistry:Hindawi*, *2013*.
- Jeong, S., Oh, J., Lim, J. S., Kim, S., Jeong, D., Kim, S. R., & Kim, J. S. (2020). Inhibitory Effect of Steamed Soybean Wastewater Against DSS-Induced Intestinal Inflammation in Mice. *Foods*, *9*(7). <https://doi.org/10.3390/foods9070954>
- Jerez-Martel, I., García-Poza, S., Rodríguez-Martel, G., Rico, M., Afonso-Olivares, C., & Gómez-Pinchetti, J. L. (2017). Phenolic profile and Antioxidant Activity of Crude Extracts from Microalgae and Cyanobacteria Strains. *Journal of Food Quality*, *2017*. <https://doi.org/10.1155/2017/2924508>
- Jesus, S. De, Ferreira, G. F., Moreira, L. S., & Maciel, R. (2020). Biodiesel Production from Microalgae by Direct Transesterification Using Green Solvents. *Elsevier*, *160*, 1283–1294. <https://doi.org/10.1016/j.renene.2020.07.056>
- Ji, M., Yun, H., Park, S., Lee, H., Park, Y., Bae, S., Ham, J., & Choi, J. (2015). Bioresource Technology Effect of Food Wastewater on Biomass Production by a Green Microalga *Scenedesmus obliquus* for Bioenergy Generation. *Bioresource Technology*, *179*, 624–628. <https://doi.org/10.1016/j.biortech.2014.12.053>



- Jijai, S., Srisuwan, G., O-thong, S., Norli, I., & Siripatana, C. (2016). Effect of Substrate and Granules / Inocula Sizes on Biochemical Methane Potential and Methane Kinetics. *Iranica Journal of Energy and Environment.*, 7(2), 94–101.
- Kadar, A. D., Astawan, M., Putri, S. P., & Fukusaki, E. (2020). Metabolomics Based Study of the Effect of Raw Materials to the End Product of Tempe—an Indonesian Fermented Soybean. *Metabolites*, 10(9), 1–11. <https://doi.org/10.3390/metabo10090367>
- Kalumbang, Y. P., Saputra, H. Y., Yulfa, R. I., Azzahra, K., & Saputra, A. Y. (2023). Recycle Strategy for Processing Waste of the Sanan Tempeh Industrial Centre: Prevention of Air Pollution. *IOP Conference Series: Earth and Environmental Science*, 1165(1). <https://doi.org/10.1088/1755-1315/1165/1/012002>
- Khan, M. I., Lee, M. G., Seo, H. J., Shin, J. H., Shin, T. S., Yoon, Y. H., Kim, M. Y., Choi, J. Il, & Kim, J. D. (2016). Enhancing the Feasibility of *Microcystis aeruginosa* as a Feedstock for Bioethanol Production under the Influence of Various Factors. *BioMed Research International*, 2016. <https://doi.org/10.1155/2016/4540826>
- Khan, M. I., Shin, J. H., & Kim, J. D. (2018). The Promising future of Microalgae: Current status, Challenges, and Optimization of a Sustainable and Renewable Industry for Biofuels, Feed, and Other Products. *Microbial Cell Factories*, 17(1), 1–21. <https://doi.org/10.1186/s12934-018-0879-x>
- Kim, S., Wirasnita, R., Lee, D., Yu, J., & Lee, T. (2021). Enhancement of Growth and Paramylon Production of *Euglena gracilis* by Upcycling of Spent Tomato Byproduct as an Alternative Medium. *Applied Sciences (Switzerland)*, 11(17). <https://doi.org/10.3390/app11178182>
- Kottuparambil, S. (2020). Advances in the Development of Anti Cancer Drugs from *Euglena*. *Journal of Algal Biomass Utilization*, 11(1), 23–26.
- Kumar Maurya, A., Faizabad Uttar Pradesh, K., Hari Om Verma, I., Pandey, G., Pal, J., Shukla, B., & Om Verma, H. (2018). A Review on Role of Fish in Human Nutrition with Special Emphasis to Essential Fatty Acid. *International Journal of Fisheries and Aquatic Studies*, 6(2), 427–430. <https://www.delamaris.si/healthy-diet/that->
- Leiva, A., & Chinchilla, F. (2020). Fatty Acid Profiling in Animal Feeds and Related Food Matrixes Using a Fast GC/MS Method and In Situ Derivatization. *International Journal of Agriculture Environment and Food Sciences*, 4(1), 70–89. <https://doi.org/10.31015/jaefs.2020.9>
- Lin, W., Luo, H., Wu, J., Hung, T. C., Cao, B., Liu, X., Yang, J., & Yang, P. (2023). A Review of the Emerging Risks of Acute Ammonia Nitrogen Toxicity to Aquatic Decapod Crustaceans. *Water (Switzerland)*, 15(1), 1–13. <https://doi.org/10.3390/w15010027>
- Lindner, A. V., & Pleissner, D. (2019). Utilization of Phenolic Compounds by Microalgae. *Algal Research*, 42(January), 101602. <https://doi.org/10.1016/j.algal.2019.101602>
- Loman, A. Al, & Ju, L. (2016). Soybean Carbohydrate as Fermentation Feedstock for Production of Biofuels and Value-Added Chemicals. *Process Biochemistry*. <https://doi.org/10.1016/j.procbio.2016.04.011>



- Maghfiroh, K. Q., Erfianti, T., NurAfifah, I., Amelia, R., Kurnianto, D., Sadewo, B. R., Maggandari, R., Aji, B. R., Budiman, A., & Suyono, E. A. (2023). The Effect of Photoperiodism on Nutritional Potency of *Euglena* sp. Indonesian Strains. *Malaysian Journal of Nutrition*, 29(3), 453–466. <https://doi.org/10.31246/mjn-2023-0004>
- Manning, S. R. (2022). Microalgal lipids: Biochemistry and Biotechnology. *Current Opinion in Biotechnology*, 74, 1–7. <https://doi.org/10.1016/j.copbio.2021.10.018>
- Markou, G., Depraetere, O., & Muylaert, K. (2016). Effect of Ammonia on the Photosynthetic Activity of *Arthrospira* and *Chlorella*: A Study on Chlorophyll Fluorescence and Electron Transport. *Algal Research*, 16, 449–457. <https://doi.org/10.1016/j.algal.2016.03.039>
- Martins, P. L. G., Marques, L. G., & Colepicolo, P. (2015). Ecotoxicology and Environmental Safety Antioxidant Enzymes are Induced by Phenol in the Marine Microalga *Lingulodinium polyedrum*. *Ecotoxicology and Environmental Safety*, 116, 84–89. <https://doi.org/10.1016/j.ecoenv.2015.03.003>
- Miller, C. J. (2016). Identifying the Sources and Sinks of CDOM / FDOM across the Mauritanian Shelf and Their Potential Role in the Decomposition of Superoxide (O<sup>-</sup> Reactive Oxygen Species in. *Frontiers in Marine Science*, 3(August), 1–19. <https://doi.org/10.3389/fmars.2016.00132>
- Morales, M., Sánchez, L., & Revah, S. (2018). The Impact of Environmental Factors on Carbon Dioxide Fixation by Microalgae. *FEMS Microbiology Letters*, 365(3), 1–11. <https://doi.org/10.1093/femsle/fnx262>
- Mujtaba, G., Rizwan, M., Kim, G., & Lee, K. (2018). Removal of Nutrients and COD through Co-Culturing Activated Sludge and Immobilized *Chlorella vulgaris*. *Chemical Engineering Journal*, 343(February), 155–162. <https://doi.org/10.1016/j.cej.2018.03.007>
- Nasional, B. S. (2005). Cara Uji Ammonia dengan Spektrofotometer secara Fenat. SNI. In *Badan Standarisasi Nasional* (p. 6).
- Nezbrytska, I., Shamanskyi, S., Pavliukh, L., & Gorbunova, Z. (2022). Application of *Euglena gracilis* in Wastewater Treatment Processes. *Biotechnologia*, 103(4), 323–330. <https://doi.org/10.5114/bta.2022.120702>
- Nguyen, T. D. P., Tran, T. N. T., Le, T. V. A., Nguyen Phan, T. X., Show, P. L., & Chia, S. R. (2019). Auto-Flocculation through Cultivation of *Chlorella vulgaris* in Seafood Wastewater Discharge: Influence of Culture Conditions on Microalgae Growth and Nutrient Removal. *Journal of Bioscience and Bioengineering*, 127(4), 492–498. <https://doi.org/10.1016/j.jbiosc.2018.09.004>
- Niemi, C., Lage, S., & Gentili, F. G. (2019). Comparisons of Analysis of Fatty Acid Methyl Ester (FAME) of Microalgae by Chromatographic Techniques. *Algal Research*, 39(February), 101449. <https://doi.org/10.1016/j.algal.2019.101449>
- Nur, F., Erfianti, T., Andeska, D. P., Adaranyssa, R., Putri, E., Nurafifah, I., Sadewo, B. R., & Suyono, E. A. (2023). *Enhancement of Microalgal Metabolite Production through Euglena sp . Local Strain and Glagah Strain Consortia*. 15(1), 36–47.



- Nurafifah, I., Hardianto, M. A., Erfianti, T., Amelia, R., Maghfiroh, K. Q., Kurnianto, D., Siswanti, D. U., Sadewo, B. R., Maggandari, R., & Suyono, E. A. (2023). The Effect of Acidic pH on Growth Kinetics, Biomass Productivity, and Primary Metabolite Contents of *Euglena* sp. *Makara Journal of Science*, 27(2), 97–105. <https://doi.org/10.7454/mss.v27i2.1506>
- Olabi, A. G., Shehata, N., Sayed, E. T., Rodriguez, C., Anyanwu, R. C., Russell, C., & Abdelkareem, M. A. (2023). Role of Microalgae in Achieving Sustainable Development Goals and Circular Economy. *Science of the Total Environment*, 854(July 2022). <https://doi.org/10.1016/j.scitotenv.2022.158689>
- Oppedisano, F., Macr, R., Gliozzi, M., Musolino, V., Carresi, C., Maiuolo, J., Bosco, F., Nucera, S., Zito, M. C., Guarnieri, L., Scarano, F., Nicita, C., Coppoletta, A. R., Ruga, S., Scicchitano, M., Mollace, R., Palma, E., & Mollace, V. (2020). The Anti-Inflammatory and Antioxidant Properties of n-3 PUFAs : Their Role in Cardiovascular Protection. *Biomedicines*, 8(306), 1–18.
- Park, K. S., Chong, Y., & Kim, M. K. (2016). Myricetin: Biological Activity Related to Human Health. *Applied Biological Chemistry*, 59(2), 259–269. <https://doi.org/10.1007/s13765-016-0150-2>
- Pedruzi, G. O. L., Amorim, M. L., Santos, R. R., Martins, M. A., & Vaz, M. G. M. V. (2020). Biomass Accumulation-Influencing Factors in Microalgae Farms. *Agriambi*, 134–139.
- Pereira, H., Barreira, L., Custódio, L., Alrokayan, S., Mouffouk, F., Varela, J., Abusalah, K. M., & Ben-hamadou, R. (2013). Isolation and Fatty Acid Profile of Selected Microalgae Strains from the Red Sea for Biofuel Production. *Energies*, 515, 2773–2783. <https://doi.org/10.3390/en6062773>
- Pierre, J., Marchal, L., Bouquillon, S., & Leroy, E. (2022). A Review of Paramylon Processing Routes from Microalga Biomass to Non-Derivatized and Chemically Modified Products Amylose from starch Cellulose  $\alpha$  -1 , 4-linkages Paramylon ( or Curdlan )  $\beta$  -1 , 3- linkages. *Elsevier: Carbohydrate Polymers*, 288(September 2021).
- Prasetio, J., & Widyastuti, S. (2020). Pupuk Organik Cair Dari Limbah Industri Tempe. *Waktu: Jurnal Teknik UNIPA*, 18(2), 22–32. <https://doi.org/10.36456/waktu.v18i2.2740>
- Putra, O., Nursantoso, W., Adi, F., Yunanda, S., Arifandi, & Rahim, A. R. (2018). Processing and Utilization of Tempe Liquid Waste to be Organic Fertilizer. *Kontribusia (Research Dissemination for Community Development)*, 1(1), 22. <https://doi.org/10.30587/kontribusia.v1i1.253>
- Qiu, R., Gao, S., Lopez, P. A., & Ogden, K. L. (2017). Effects of pH on cell growth, lipid production and CO<sub>2</sub> addition of microalgae *Chlorella sorokiniana*. *Algal Research*, 28(November), 192–199. <https://doi.org/10.1016/j.algal.2017.11.004>
- Qiu, Y., Zu, Y., Song, C., Xie, M., Qi, Y., Kansha, Y., & Kitamura, Y. (2019). Soybean Processing Wastewater Purification via *Chlorella* L166 and L38 with Potential Value-Added Ingredients Production. *Bioresource Technology Reports*, 7(March), 100195. <https://doi.org/10.1016/j.biteb.2019.100195>



- Rais Nur Latifah, S. R. (2014). Isolasi dan Identifikasi spesies Mikroalga Air Tawar sebagai Antioksidan dan Anihiperqlikemik. *Jurnal Litbang Industri*, 2014(2), 73–81.
- Ramos-Ibarra, J. R., Snell-Castro, R., Neria-Casillas, J. A., & Choix, F. J. (2019). Biotechnological Potential of *Chlorella* sp. and *Scenedesmus* sp. Microalgae to Endure High CO<sub>2</sub> and Methane Concentrations from Biogas. *Bioprocess and Biosystems Engineering*, 42(10), 1603–1610. <https://doi.org/10.1007/s00449-019-02157-y>
- Riadi, L., Askitosari, T. D., Widhi, R. P. D., Laurensia, M., Agustin, Y. E., & Arifin, Y. (2021). The Kinetics of Tempeh Wastewater Treatment using *Arthrospira platensis*. *Water Science and Technology*, 83(12), 2997–3006. <https://doi.org/10.2166/wst.2021.183>
- Rubiyatno, Matsui, T., Mori, K., & Toyama, T. (2021). Paramylon Production by *Euglena gracilis* via Mixotrophic Cultivation using Sewage Effluent and Waste Organic Compounds. *Bioresource Technology Reports*, 15(May). <https://doi.org/10.1016/j.biteb.2021.100735>
- Salbitani, G., & Carfagna, S. (2021). Ammonium Utilization in Microalgae: a Sustainable Method for Wastewater Treatment. *Sustainability (Switzerland)*, 13(2), 1–17. <https://doi.org/10.3390/su13020956>
- Sarakatsanis, C. K. (2019). A Comparative Assessment of Biodiesel Cetane Acid Composition. *Energies*, 12(422), 1–30. <https://doi.org/10.3390/en12030422>
- Sari, D., & Rahmawati, A. (2020). Pengelolaan Limbah Cair Tempe Air Rebusan dan Air Rendaman Kedelai. *Jurnal Ilmiah Kesehatan Media Husada*, 9(1), 47–54. <https://doi.org/10.33475/jikmh.v9i1.210>
- Sari, L. A., Suherman, S. P., Yulinda, E. N., Musa, M., Lusiana, D., & Prasetya, F. S. (2020). Utilization of Tofu Wastewater as *Chlorella pyrenoidosa* Growth Medium. *AAAL Bioflux*, 13(5), 2878–2885.
- Sasongko, A. (2018). Ammonia Determination In Bottled Water Using Spectrophotometer : Comparison Between Nessler And Berthelot Methods. *JST (Jurnal Sains Dan Teknologi)*, 7(1), 126–134. <https://doi.org/10.23887/jstundiksha.v7i1.13009>
- Schagerl, M., Siedler, R., Konopáčová, E., & Ali, S. S. (2022). Estimating Biomass and Vitality of Microalgae for Monitoring Cultures: a Roadmap for Reliable Measurements. *Cells*, 11(15). <https://doi.org/10.3390/cells11152455>
- Schulze, C., Strehle, A., Merdivan, S., & Mundt, S. (2017). Carbohydrates in Microalgae: Comparative Determination by TLC, LC-MS without Derivatization, and the Photometric thymol-Sulfuric Acid Method. *Algal Research*, 25(April), 372–380. <https://doi.org/10.1016/j.algal.2017.05.001>
- Schuermans, R. M., Van Alphen, P., Schuurmans, J. M., Matthijs, H. C. P., & Hellingwerf, K. J. (2015). Comparison of the Photosynthetic Yield of Cyanobacteria and Green Algae: Different Methods Give Different Answers. *PLoS ONE*, 10(9), 1–17. <https://doi.org/10.1371/journal.pone.0139061>
- Schwartzbach, Steven D, S. S. (2017). *Euglena: Biochemistry, Cell and Molecular Biology*. <https://link.springer.com/content/pdf/10.1007%2F978-3-319-54910-1.pdf>



- Serri, N. A., Anbalagan, L., Norafand, N. Z., Kassim, M. A., & Abu Mansor, M. S. (2020). Preliminary Study on the Growth of *Tetraselmis suecica* in Centred-Light Photobioreactor (CLPBR). *IOP Conference Series: Materials Science and Engineering*, 716(1), 0–8. <https://doi.org/10.1088/1757-899X/716/1/012008>
- Simion, I. M., Mot, A. C., & Pop, H. F. (2020). Characterization and Classification of Medicinal Plant Extracts According to Their Antioxidant Activity Using High-Performance Liquid Chromatography and Multivariate Analysis. *Studia UBB Chemia, June*, 71–82. <https://doi.org/10.24193/subbchem.2020.1.06>
- Simopoulos, A. P. (1999). Essential Fatty Acids in Health and Chronic Disease. *The American Journal of Clinical Nutrition*, 70(3), 560S-569S. <https://doi.org/10.1093/ajcn/70.3.560s>
- Soesanto, L., Mugiastuti, E., Ragil Sastyawan, M. W., & Manan, A. (2023). Preservation of Weeds' Pathogenic Fungi in Tempeh and Tapioca Liquid Waste and its Effectiveness in Goatweed (*Ageratum conyzoides*). *Journal of Tropical Plant Pests and Diseases*, 23(2), 31–41. <https://doi.org/10.23960/jhptt.22331-41>
- Song, C., Han, X., Qiu, Y., Liu, Z., Li, S., & Kitamura, Y. (2020). Microalgae Carbon Fixation Integrated with Organic Matters Recycling from Soybean Wastewater: Effect of pH on the Performance of Hybrid System. *Chemosphere*, 248, 126094. <https://doi.org/10.1016/j.chemosphere.2020.126094>
- Song, C., Qiu, Y., Li, S., Liu, Z., Chen, G., Sun, L., Wang, K., & Kitamura, Y. (2019). A Novel Concept of Bicarbonate-Carbon Utilization via an Absorption-Microalgae Hybrid Process Assisted with Nutrient Recycling from Soybean Wastewater. *Journal of Cleaner Production*, 237, 117864. <https://doi.org/10.1016/j.jclepro.2019.117864>
- Song, Y., Shin, H., Sianipar, H. G. J., Park, J. Y., Lee, M., Hah, J., Park, H. S., Lee, H. J., Lee, S., & Kang, H. (2022). Oral Administration of *Euglena gracilis* paramylon Ameliorates Chemotherapy-Induced Leukocytopenia and Gut Dysbiosis in Mice. *International Journal of Biological Macromolecules*, 211(February), 47–56. <https://doi.org/10.1016/j.ijbiomac.2022.04.168>
- Sugiura, Y., Akiyama, R., Tanaka, S., Yano, K., Kameoka, H., & Marui, S. (2020). Myristate can be Used as a Carbon and Energy Source for the Asymbiotic Growth of Arbuscular Mycorrhizal Fungi. *PNAS*, 117(41), 25779–25788. <https://doi.org/10.1073/pnas.2006948117>
- Suh, S., Kim, S. J., Hwang, J., Park, M., Lee, T., Kil, E., & Lee, S. (2015). Fatty Acid Methyl Ester Profiles and Nutritive Values of 20 marine Microalgae in Korea. *Asian Pacific Journal of Tropical Medicine*, 8(3), 191–196. [https://doi.org/10.1016/S1995-7645\(14\)60313-8](https://doi.org/10.1016/S1995-7645(14)60313-8)
- Suyono, E. A., Nopitasari, S., Zusron, M., Khoirunnisa, P., Islami, D. A., & Prabeswara, C. B. (2016). Effect of Silica on Carbohydrate Content of Mixed Culture *Phaeodactylum* sp. and *Chlorella* sp. *Biosciences Biotechnology Research Asia*, 13(1), 109–114. <https://doi.org/10.13005/bbra/2011>



- Suzuki, K., Mitra, S., Iwata, O., Ishikawa, T., Kato, S., & Yamada, K. (2015). Selection and Characterization of *Euglena anabaena* var. Minor as a New Candidate *Euglena* species for Industrial Application. *Bioscience, Biotechnology and Biochemistry*, 79(10), 1730–1736. <https://doi.org/10.1080/09168451.2015.1045828>
- Sych, G., Frost, P., & Irnazarow, I. (2013). Influence of  $\beta$ -glucan (Macrogard®) on Innate Immunity of Carp Fry. *Bulletin of the Veterinary Institute in Pulawy*, 57(2), 219–223. <https://doi.org/10.2478/bvip-2013-0039>
- Szabó, Z., Marosvölgyi, T., Szabó, É., Bai, P., & Figler, M. (2020). The Potential Beneficial Effect of EPA and DHA Supplementation Managing Cytokine Storm in Coronavirus Disease. *Frontiers in Physiology*, 11(June), 1–5. <https://doi.org/10.3389/fphys.2020.00752>
- Tang, D. Y. Y., Khoo, K. S., Chew, K. W., Tao, Y., Ho, S. H., & Show, P. L. (2020). Potential Utilization of Bioproducts from Microalgae for the Quality Enhancement of Natural Products. *Bioresource Technology*, 304(February). <https://doi.org/10.1016/j.biortech.2020.122997>
- Thiviyathan, V. A., Ker, P. J., Amin, E. P. P., Tang, S. G. H., Yee, W., & Jamaludin, M. Z. (2023). Quantifying Microalgae Growth by the Optical Detection of Glucose in the NIR Waveband. *Molecules*, 28(3), 1–10. <https://doi.org/10.3390/molecules28031318>
- Tsianta, A. (2019). *Pharmaceutical Applications of Eukaryotic Microalgae*. <https://repository.ihu.edu.gr/xmlui/handle/11544/29668>
- Turck, D., Castenmiller, J., De Henauw, S., Hirsch-Ernst, K. I., Kearney, J., Maciuk, A., Mangelsdorf, I., McArdle, H. J., Naska, A., Pelaez, C., Pentieva, K., Siani, A., Thies, F., Tsbauri, S., Vinceti, M., Cubadda, F., Engel, K. H., Frenzel, T., Heinonen, M., ... Knutsen, H. K. (2020). Safety of Dried Whole Cell *Euglena gracilis* as a Novel Food Pursuant to Regulation (EU) 2015/2283. *EFSA Journal*, 18(5). <https://doi.org/10.2903/j.efsa.2020.6100>
- Valderrama, R., Mata-pérez, C., Padilla, M. N., & Corpas, F. J. (2016). Antioxidant Systems are Regulated by Nitric Oxide-Mediated Post-translational Modifications ( NO-PTMs ). *Frontiers in Plant Science*, 7(February), 1–8. <https://doi.org/10.3389/fpls.2016.00152>
- Wang, Y., Seppänen-Laakso, T., Rischer, H., & Wiebe, M. G. (2018). *Euglena gracilis* Growth and Cell Composition Under Different Temperature, Light and Trophic Conditions. *PLoS ONE*, 13(4), 1–17. <https://doi.org/10.1371/journal.pone.0195329>
- Wu, J., Gu, X., Yang, D., Xu, S., Wang, S., Chen, X., & Wang, Z. (2021). Bioactive Substances and Potentiality of Marine Microalgae. *Food Science and Nutrition*, 9(9), 5279–5292. <https://doi.org/10.1002/fsn3.2471>
- Wu, J., Lay, C., Chen, C., & Wu, S. (2017). Lipid Accumulating Microalgae Cultivation in Textile Wastewater : Environmental Parameters Optimization. *Journal of the Taiwan Institute of Chemical Engineers*, 79, 1–6.
- Xin, K., Guo, R., Zou, X., Rao, M., Huang, Z., Kuang, C., Ye, J., Chen, C., Huang, C., Zhang, M., Yang, W., & Cheng, J. (2023). CO<sub>2</sub> gradient domestication improved high-concentration CO<sub>2</sub> tolerance and photoautotrophic growth of *Euglena gracilis*. *Science of the Total Environment*, 868(November 2022).



- <https://doi.org/10.1016/j.scitotenv.2023.161629>
- Yaakob, M. A., Mohamed, R. M. S. R., Al-Gheethi, A., Ravishankar, G. A., & Ambati, R. R. (2021). Influence of Nitrogen and Phosphorus on Microalgal Growth, Biomass, Lipid, and Fatty Acid Production: an Overview. *Cells*, *10*(2), 1–19. <https://doi.org/10.3390/cells10020393>
- Yang, B., Liu, J., Ma, X., Guo, B., Liu, B., Wu, T., Jiang, Y., & Chen, F. (2017). Genetic Engineering of the Calvin Cycle Toward Enhanced Photosynthetic - CO<sub>2</sub> Fixation in Microalgae. *Biotechnology for Biofuels*, 1–13. <https://doi.org/10.1186/s13068-017-0916-8>
- Yang, F., Xiang, W., Li, T., & Long, L. (2018). Transcriptome Analysis for Phosphorus Starvation-Induced Lipid Accumulation in *Scenedesmus* sp. *Scientific Reports*, *8*(1), 1–11. <https://doi.org/10.1038/s41598-018-34650-x>
- Yarlina, V. P., Djali, M., Andoyo, R., Lani, M. N., & Rifqi, M. (2023). Effect of Soaking and Proteolytic Microorganisms Growth on the Protein and Amino Acid Content of Jack Bean Tempeh. *Processes*, *11*, 1–14.
- Yasuda, K., Ogushi, M., Nakashima, A., Nakano, Y., & Suzuki, K. (2018). Accelerated Wound Healing on the Skin using a Film Dressing with  $\beta$ -glucan Paramylon. *In Vivo*, *32*(4), 799–805. <https://doi.org/10.21873/invivo.11310>
- Young, E. B., Reed, L., & Berges, J. A. (2022). Growth Parameters and Responses of Green Algae Across a Gradient of Phototrophic, Mixotrophic and Heterotrophic Conditions. *PeerJ*, *10*, 1–27. <https://doi.org/10.7717/peerj.13776>
- Zhang, L., Xu, E. G., Li, Y., Liu, H., Vidal-Dorsch, D. E., & Giesy, J. P. (2018). Ecological Risks Posed by Ammonia Nitrogen (AN) and Un-Ionized Ammonia (NH<sub>3</sub>) in Seven Major River Systems of China. *Chemosphere*, *202*, 136–144. <https://doi.org/10.1016/j.chemosphere.2018.03.098>
- Zhu, J., & Wakisaka, M. (2018). Growth Promotion of *Euglena gracilis* by Ferulic Acid from Rice Bran. *AMB Express*, *8*(1). <https://doi.org/10.1186/s13568-018-0547-x>
- Zuo, Z., Ni, B., & Yang, L. (2018). Bioresource Technology Production of primary metabolites in *Microcystis aeruginosa* in Regulation of Nitrogen Limitation. *Bioresource Technology*, *270*(August), 588–595. <https://doi.org/10.1016/j.biortech.2018.09.079>