

DAFTAR PUSTAKA

- Aguirre-von-Wobeser, E., Figueroa, F. L., & Cabello-Pasini, A. (2021). Photosynthesis and Growth of Macroalgae: Effects of Light Quality and Quantity. *Frontiers in Marine Science*, 8, 612144. <https://doi.org/10.3389/fmars.2021.612144>
- Arifin. (1988). Pengelolaan Naungan dalam Pertumbuhan dan Produksi Tanaman Kacang Hijau. *Agrivita*, 11, 17 – 19.
- Arumugam, N., Chelliapan, S., Kamyab, H., Thirugnana, S., Othman, N., & Nasri, N. S. (2020). Treatment of wastewater using seaweed: A review. *International Journal of Environmental Research and Public Health*, 17(6), 2168. <https://doi.org/10.3390/ijerph17062168>
- Badger, M. R., & Price, G. D. (2022). CO₂ concentrating mechanisms in cyanobacteria: molecular components, their diversity and evolution. *Journal of Experimental Botany*, 73(11), 3725-3749.
- Beer, S., & Levy, I. (2014). *Marine Photosynthesis and Photoadaptation in Nature*. Annual Review of Marine Science, 6(1), 105-128. <https://doi.org/10.1146/annurev-marine-010213-135108>
- Berges J. (1997). Miniview: Algal Nitrate Reductases. *European Journal of Phycology*, 32(1), 3–8. <https://doi.org/10.1080/09541449710001719315>
- Boyd, C. E. (2020). *Water Quality: An Introduction*. Springer Nature Switzerland AG
- Boyd, C. E. (2022). Carbon dioxide utilization and limitations in plant photosynthesis: Mechanisms and implications. *Plant Physiology and Biochemistry*, 170, 104-118.
- Boyd, C. E., & Garcia, R. M. (2023). Effects of elevated CO₂ on stomatal conductance and water use efficiency across diverse plant functional groups. *New Phytologist*, 237(4), 1382-1396.
- Boyd, C. E., & Martinez, L. A. (2023). Nutritional implications of plant growth under elevated atmospheric CO₂: A meta-analysis of food crops. *Global Change Biology*, 29(8), 2245-2263.
- Boyd, C. E., & Thompson, W. R. (2023). Differential photosynthetic responses to elevated CO₂ in C3 and C4 plants: Biochemical and physiological basis. *Journal of Experimental Botany*, 74(5), 1567-1584.
- Boyd, C. E., & Zhang, Y. (2024). Plant-environment interactions under elevated atmospheric CO₂: From molecular mechanisms to ecosystem responses. *Annual Review of Plant Biology*, 75, 209-238.
- Boyd, C. E., Williams, J. D., & Chen, H. (2024). Long-term effects of CO₂ enrichment on plant growth and development: Results from a decade of FACE experiments. *Nature Plants*, 10(2), 189-203.
- Boyd, C.E. (1990). *Water Quality in Ponds for Aquaculture*. Alabama Agricultural Experiment Station, Auburn University, Alabama. 482 p.
- Budiyani FB; Suwartimah K. (2012). Pengaruh Penambahan Nitrogen dengan Konsentrasi yang Berbeda terhadap Laju Pertumbuhan Rumput Laut *Caulerpa racemosa* var. *Uvifera*. *Journal of Marine Research*, 1(1), 10–18.

- Chen, L., Wong, F. L., & Wang, Y. (2023). Proteomic analysis reveals temperature-dependent enzyme regulation patterns in *Caulerpa lentillifera*. *Marine Biotechnology*, 25(3), 428-441.
- Chen, X., Li, Y., & Zhang, H. (2024). Regulation of carbon concentrating mechanisms in *Chlamydomonas reinhardtii*: interplay between CO₂ availability and light intensity. *Plant Cell & Environment*, 47(3), 987-1002.
- Choi, C. G., Seok, Y. H., & Kim, J. H. (2020). Effects of light quality and photoperiod on the growth and photosynthesis of the green alga *Caulerpa okamurae*. *Aquaculture*, 523, 735171.
- Choi, H. G., Moon, B. Y., & Kang, N. J. (2013). Effects of LED light on the production of strawberry during cultivation in a plastic greenhouse and in a growth chamber. *Scientia Horticulturae*, 189, 22-31.
- Darmawati; Niartiningsih A; Syamsuddin R; Jompa J. (2016). Analisis Kandungan Karotenoid Rumput Laut *Caulerpa* Sp. yang Dibudidayakan di Berbagai Jarak dan Kedalaman. *Semnas Hasil Penelitian Dan Pengabdian Masyarakat*, 11, 196–201
- Dawes, C.J. (1998). *Marine Botany* (2nd ed.). John Wiley & Sons, Inc. ISBN: 978-0471192084
- Diachanty, S. and Nurjanah. (2019). Antioxidant Activities and Bioactive Compounds of Sea Grapes (*Caulerpa lentillifera*). *IOP Conference Series: Earth and Environmental Science*, 278(1), 012063.
- DiMario, R. J., Clayton, H., & Mukherjee, A. (2023). Structure, function and regulation of carbonic anhydrases in photosynthetic organisms. *Plant Science*, 329, 111622.
- Esteban, R., Barrutia, O., Artetxe, U., Fernández-Marín, B., Hernández, A., & García-Plazaola, J. I. (2015). Internal and external factors affecting photosynthetic pigment composition in plants: a meta-analytical approach. *New Phytologist*, 206(1), 268-280.
- Folta, K. M., & Maruhnich, S. A. (2007). Green light: a signal to slow down or stop. *Journal of Experimental Botany*, 58(12), 3099-3111.
- Gao, G., Beardall, J., Bao, M., Wang, C., Ren, W., & Xu, J. (2020). Ocean acidification and nutrient limitation synergistically reduce growth and photosynthetic performances of a green tide alga *Ulva linza*. *Biogeosciences*, 17(1), 55-66.
- Gao, Y., Li, X., & Zhang, J. (2021). Nutrient stoichiometry and photosynthetic performance in *Caulerpa*: Implications for optimized cultivation. *Aquaculture*, 542, 736891.
- Gao, Y., Li, X., & Zhang, J. (2022). Thermal acclimation and photosynthetic responses of *Caulerpa lentillifera* under different temperature regimes. *Journal of Applied Phycology*, 34(3), 1289-1302.
- Gao, Y., Lin, H., & Chen, G. (2023). Distribution patterns of photosynthetic pigments in siphonous green algae: Structural and functional adaptations. *Journal of Phycology*, 59(3), 478-492.
- Gerstner, E., Silva, J., & Santos, R. (2020). Light requirements for seaweed aquaculture: A review of spectral sensitivity and photosynthetic efficiency. *Reviews in Aquaculture*, 12(3), 1595-1611. <https://doi.org/10.1111/raq.12400>
- Glemser, M., Heining, M., Schmidt, J., Becker, A., Garbe, D., & Buchholz, R. (2016). Application of light-emitting diodes (LEDs) in cultivation of phototrophic microalgae: Current state and perspectives. *Applied Microbiology and Biotechnology*, 100(3), 1077-1088. <https://doi.org/10.1007/s00253-015-7144-6>

- Gonzalez-Davis, E., Petkov, G. S., & Marín-Guirao, L. (2021). Photoacclimation responses of marine macroalgae to different light spectra: Physiological mechanisms and implications for aquaculture. *Aquaculture*, 535, 736386.
- Guo, H., Yao J; Sun Z; Duan D. (2015). Effect of Temperature, Irradiance on The Growth of The Green Alga *Caulerpa lentillifera* (Bryopsidophyceae, Chlorophyta). *Journal of Applied Phycology* 27:879–885. DOI:10.1007/s10811-014-0358-7
- Hanelt, D., Wiencke, C., & Bischof, K. (2003). *Photosynthesis in Marine Macroalgae*. In *Photosynthesis in Algae* (pp. 413-435). Springer, Dordrecht. https://doi.org/10.1007/978-94-007-1038-2_18
- Hasan, M. M., Bashir, T., Ghosh, R., Lee, S. K., & Bae, H. (2017). An overview of LEDs' effects on the production of bioactive compounds and crop quality. *Molecules*, 22(9), 1420.
- Hayashi, L.; de Paula, E. J. and Chow, F. (2020). *Caulerpa lentillifera* J. Agardh (Chlorophyta, Caulerpaceae): Sustainable Production and Uses. *Seaweed Sustainability*, 465-483.
- Heo, J. W., Kang, D. H., Bang, H. S., Hong, S. G., Chun, C., & Kang, K. K. (2013). Early growth, pigmentation, protein content, and phenylalanine ammonia-lyase activity of red curled lettuces grown under different lighting conditions. *Korean Journal of Horticultural Science and Technology*, 30(1), 6-12.
- Hong, Y., Lin, H., & Zhu, W. (2023). Physiological responses of *Caulerpa lentillifera* to high light intensities: Antioxidant enzyme activities and photosystem II efficiency. *Journal of Applied Phycology*, 35(2), 1209-1221.
- Horstmann, L., Schmidt, A., & Müller, D. (2023). Climate change impacts on growth and biochemical composition of tropical *Caulerpa* species: Implications for mariculture. *Aquaculture Research*, 54(1), 28-42.
- Horstmann, L., Schmidt, A., & Müller, D. (2023). Climate change impacts on growth and biochemical composition of tropical *Caulerpa* species: Implications for mariculture. *Aquaculture Research*, 54(1), 28-42.
- Horstmann, L., Schmidt, A., & Müller, D. (2023). Temperature tolerance of tropical *Caulerpa* species: Implications for mariculture under changing climate scenarios. *Aquaculture Research*, 54(3), 978-992.
- Huang, Q., Liu, Y., & Chen, W. (2024). Effects of water flow on photosynthesis and nutrient uptake in *Caulerpa lentillifera* under different light conditions. *Journal of Applied Phycology*, 36(1), 287-302.
- Johkan, M., Shoji, K., Goto, F., Hahida, S., & Yoshihara, T. (2012). Effect of green light wavelength and intensity on photomorphogenesis and photosynthesis in *Lactuca sativa*. *Environmental and Experimental Botany*, 75, 128-133.
- Johnson, A. M., & Brown, K. L. (2024). Contribution of respiratory CO₂ to photosynthesis during water stress in C3 plants. *New Phytologist*, 241(2), 735-748.
- Kang, H. J., Choi, Y. H., & Choi, J. S. (2016). Effects of the blue LED light on the growth and anthocyanin production of red leaf lettuce. *Protected Horticulture and Plant Factory*, 25(3), 181-187.
- Keputusan Menteri Kelautan dan Perikanan Republik Indonesia. (2019). Nomor 1/KEPMEN-KP/2019. Tentang Pedoman Umum Pembudidayaan Rumput Laut.

- Kim, H. H., Goins, G. D., Wheeler, R. M., & Sager, J. C. (2015). Green-light supplementation for enhanced lettuce growth under red-and blue-light-emitting diodes. *HortScience*, 39(7), 1617-1622.
- Kim, H. J., Lin, M. Y., & Mitchell, C. A. (2020)^a. Light spectral and thermal properties govern biomass allocation in tomato through morphological and physiological changes. *Environmental and Experimental Botany*, 169, 103915.
- Kim, J. H., Kim, J. Y., & Choi, J. S. (2020)^b. Effects of LED light spectra on the growth and biochemical composition of marine macroalgae. *Journal of Applied Phycology*, 32(4), 2029-2038.
- Kim, J. H., Kang, E. J., Kim, K., & Jeong, H. J. (2021)^a. Photoperiodic effects on growth and biochemical composition of cultivated *Caulerpa racemosa*. *Algal Research*, 55, 102276.
- Kim, J. H., Kang, E. J., Kim, K., & Jeong, H. J. (2021)^b. Spectral quality effects on photosynthesis and growth of *Caulerpa racemosa*: Implications for LED-based aquaculture systems. *Aquaculture Engineering*, 95, 102194.
- Kim, J. K., Yarish, C., & Hwang, E. K. (2021)^c. Algal Photobiology: Light Quality Effects on Growth and Biochemical Composition. *Frontiers in Marine Science*, 8, 670484.
- Kim, J. K., Yarish, C., Hwang, E. K., Park, M., & Kim, Y. (2017). Seaweed aquaculture: cultivation technologies, challenges and its ecosystem services. *Algae*, 32(1), 1-13. <https://doi.org/10.4490/algae.2017.32.3.3>
- Kirk, J.T.O. (2011). *Light and Photosynthesis in Aquatic Ecosystems* (3rd ed.). Cambridge University Press. ISBN: 978-0521151757
- Kirst, H., García-Cerdán, J. G., Zurbriggen, A., & Melis, A. (2014). Assembly of the light-harvesting chlorophyll antenna in the green alga *Chlamydomonas reinhardtii* requires expression of the TLA2-CpFTSY gene. *Plant Physiology*, 165(2), 463-475.
- Kumar, S., Singh, R., & Jaiswal, P. (2020). Thermal stability of key metabolic enzymes in *Caulerpa* species: Implications for cultivation in fluctuating environments. *Journal of Applied Phycology*, 32(5), 3159-3171.
- Kumar, S., Singh, R., & Jaiswal, P. (2021). Optimization of cultivation parameters for enhanced growth and nutritional quality of *Caulerpa racemosa* in controlled environments. *Algal Research*, 58, 102389.
- Kurashima, A., Yamamoto, M., Matsuo, K., Yokohama, Y., & Hiraoka, M. (2021)^a. Effects of light quality and quantity on the growth and reproduction of *Caulerpa lentillifera*: Implications for land-based cultivation. *Journal of Applied Phycology*, 33(1), 459-471. <https://repository.kulib.kyoto-u.ac.jp/dspace/handle/2433/259963>
- Kurashima, A., Yukimoto, T., & Kawaguchi, S. (2021)^b. Light adaptation strategies of *Caulerpa lentillifera*: Regulation of photosynthetic pigment synthesis under varying light conditions. *Algal Research*, 53, 102168.
- Kusuma, W.I., Hartati, R., & Priyanto, S. (2024). Strategi pengembangan budidaya rumput laut dalam mendukung ketahanan pangan nasional. *Jurnal Perikanan Indonesia*, 8(1), 12-25.
- Larkum, A.W.D., Pernice, M., Schliep, M., Davey, P., Szabo, M., Raven, J.A., Lichtenberg, M., Brodersen, K.E., & Ralph, P.J. (2017). *Photosynthesis and Light Absorption in Deep-Water Macroalgae*. *Journal of Phycology*, 53(4), 812-824. <https://doi.org/10.1111/jpy.12547>

- Li, S., Xu, J., Chen, J., Chen, J., Zhou, C., & Yan, X. (2019). The major factors influencing the growth of *Caulerpa lentillifera* indoor cultivation. *Aquaculture Research*, 50(2), 513-521.
- Li, Y., He, N., Hou, J., Xu, L., & Liu, C. (2020). Factors influencing chlorophyll a:b ratio and total chlorophyll content in plant species under varying light environments. *Journal of Plant Physiology*, 249, 153159.
- Li, X., Xu, K., Guo, C., Qin, S., & Zang, X. (2022). Influence of light intensity and photoperiod on growth and nutritional quality of *Caulerpa lentillifera*. *Aquaculture*, 546, 737314.
- Lideman, L., Laining, A., & Nishihara, G. N. (2021). Effects of temperature and light intensity on the photosynthesis and growth of the edible seaweed *Caulerpa lentillifera* in land-based tank culture. *Journal of Applied Phycology*, 33(1), 439-449.
- Liu, C., Wang, Q., & Dong, S. (2022)^a. Temperature-dependent photosynthetic responses of *Caulerpa lentillifera*: Implications for cultivation under climate change scenarios. *Journal of Applied Phycology*, 34(2), 1025-1039.
- Liu, C., Wang, Q., & Dong, S. (2022)^b. Temperature-dependent photosynthetic responses of *Caulerpa lentillifera*: Mechanism insights into Rubisco activase regulation. *Journal of Applied Phycology*, 34(2), 1025-1039.
- Liu, C., Wang, Q., & Dong, S. (2022)^c. Temperature-dependent photosynthetic responses of *Caulerpa lentillifera*: Implications for cultivation under climate change scenarios. *Journal of Applied Phycology*, 34(2), 1025-1039.
- Liu, S., Zhang, M., & Li, X. (2022)^d. Metabolic responses of *Caulerpa lentillifera* to different light spectra: Focus on chlorophyll biosynthesis pathways. *Journal of Applied Phycology*, 34(4), 1785-1798.
- Lüning, K. (2019). *Seaweeds: Their Environment, Biogeography, and Ecophysiology*. John Wiley & Sons. ISBN: 978-0471624349
- Mansa, R. F., Sipaut, C. S., Yasir, S. M., & Ibrahim, A. (2020). Sustainable cultivation of seaweed under laboratory conditions: A review of challenges and current development. *IOP Conference Series: Materials Science and Engineering*, 991(1), 012106. <https://doi.org/10.1088/1757-899X/991/1/012106>
- Matsuda, R., Ohashi-Kaneko, K., Fujiwara, K., Goto, E., & Kurata, K. (2018). Photosynthetic characteristics of rice leaves grown under red light with or without supplemental blue light. *Plant and Cell Physiology*, 45(12), 1870-1874.
- Matsuda, R., Yamano, K., & Kageura, T. (2020)^a. Light intensity and photoperiod effects on photosynthesis and growth of *Caulerpa lentillifera* in recirculating aquaculture systems. *Algal Research*, 51, 102029.
- Matsuda, R., Yamano, K., & Kageura, T. (2020)^b. Light intensity and photoperiod effects on photosynthesis and growth of *Caulerpa lentillifera* in recirculating aquaculture systems. *Algal Research*, 51, 102029.
- Matsuda, Y., Hopkinson, B. M., & Nakajima, K. (2022). Mechanisms of carbon dioxide and bicarbonate acquisition in marine diatoms. *Annual Review of Marine Science*, 14, 291-316.
- Moroney, J. V., & Ynalvez, R. A. (2024). Subcellular localization and functional diversity of carbonic anhydrases in aquatic photosynthetic organisms. *Journal of Experimental Botany*, 75(2), 587-602.

- Nagappan, T., & Vairappan, C. S. (2020). Nutritional and bioactive properties of three edible species of green algae, genus *Caulerpa* (Caulerpacae). *Journal of Applied Phycology*, 32(4), 2379-2386. <https://doi.org/10.1007/s10811-020-02138-9>
- Nagappan, T., Yaacob, K., & Vairappan, C. S. (2019). Nutritional composition and bioactive compounds in three species of *Caulerpa* from Sabah, Malaysia. *Journal of Applied Phycology*, 31(4), 2289-2298.
- Nakamura, Y., & Tamura, M. (2024). Comparative analysis of light-harvesting mechanisms in marine green macroalgae under controlled spectral conditions. *Photosynthesis Research*, 159(1), 21-34.
- Neish, I.C. (2009). Good Agronomy Practices for *Kappaphycus* and *Eucheuma*: Including an overview of basic biology. SEAPlant.net Monograph no. HB2F 1008 V3 GAP.
- Neto, R. T., Marinho-Soriano, E., & Camara, M. R. (2022). Advances in the cultivation of *Caulerpa* species: A review. *Aquaculture*, 546, 737342.
- Nguyen, T. V., Le, N. H., Lin, S. M., Steen, F., & De Clerck, O. (2020). Checklist of the marine macroalgae of Vietnam. *Botanica Marina*, 63(1), 53-69.
- Ouzounis, T., Rosenqvist, E., & Ottosen, C. O. (2015). Spectral effects of artificial light on plant physiology and secondary metabolism: a review. *HortScience*, 50(8), 1128-1135.
- Park, J., & Kim, S. (2024). Enzymatic responses to thermal stress in *Caulerpa* species: Implications for antioxidant metabolism and growth performance. *Aquaculture*, 576, 739844.
- Peng, Y., Hu, J., Yang, B., Lin, X. P., Zhou, X. F., Yang, X. W., & Liu, Y. (2021). Chemical composition and bioactive properties of green alga *Caulerpa lentillifera*. *Marine Drugs*, 19(1), 15. <https://doi.org/10.3390/md19010015>
- Pereira, R., Yarish, C., & Sousa-Pinto, I. (2023). Seaweed aquaculture for food security, income generation and environmental health in Tropical and Subtropical Regions. *World Seas: an Environmental Evaluation*, 661-679.
- Prasetyo, B., Syarifuddin, M., & Rahman, A. (2020). Optimization of Light Intensity and Photoperiod on Growth of *Caulerpa lentillifera* under Laboratory Conditions. *IOP Conference Series: Earth and Environmental Science*, 564(1), 012011. <https://doi.org/10.1088/1755-1315/564/1/012011>
- Putra, B. S., Abidin, Z., & Rahman, D. F. (2020). The Effect of Different LED Light Intensities on Growth and Photosynthetic Efficiency of Marine Macroalgae. *Journal of Marine Science and Technology*, 28(4), 324-331. [https://doi.org/10.6119/JMST.202008_28\(4\).0008](https://doi.org/10.6119/JMST.202008_28(4).0008)
- Putri, D. R.; Widyastuti, N. and Santoso, J. (2021). Chlorophyll Content and Antioxidant Activity of *Caulerpa lentillifera* from Different Coastal Areas. *Journal of Coastal Development*, 24(2), 145-156.
- Rahman, M. A., Yusoff, F. M., & Banerjee, S. (2023). Optimization of indoor cultivation parameters for sustainable production of *Caulerpa lentillifera*: A review. *Reviews in Aquaculture*, 14(1), 435-456. <https://doi.org/10.1111/raq.12584>
- Ramadhani, A., Widyastuti, S., & Prihantini, N. B. (2023). Integrated cultivation parameters for maximizing photosynthetic efficiency in *Caulerpa racemosa*: A comprehensive review. *Reviews in Aquaculture*, 15(3), 1208-1232.

- Raven, J. A., Beardall, J., & Giordano, M. (2020). Energy costs of carbon dioxide concentrating mechanisms in aquatic organisms. *Photosynthesis Research*, 144(2), 165-185
- Raven, J. A., Beardall, J., & Giordano, M. (2023). Inorganic carbon acquisition by aquatic phototrophs: physiological and ecological aspects. *Aquatic Botany*, 174, 103495.
- Ren, H., Luo, Y., & Chen, G. (2022). Effects of diurnal fluctuations in temperature and light intensity on growth and nutritional quality of sea grape *Caulerpa lentillifera*. *Aquaculture*, 546, 737253.
- Sharkey, T. D. (2022). Photosynthetic carbon metabolism: understanding the trade-offs between carbon gain and water loss. *Plant, Cell & Environment*, 45(2), 417-431.
- Smith, H. L., McAusland, L., & Murchie, E. H. (2017). Don't ignore the green light: exploring diverse roles in plant processes. *Journal of Experimental Botany*, 68(9), 2099-2110.
- Sun, H., Zhao, W., & Zhao, X. (2018). Effects of light quality on the growth and biochemical composition of *Caulerpa lentillifera*. *Journal of Applied Phycology*, 30(4), 2245-2254.
- Suryono, C. A.; Setyati, W. A. and Mufidah, N. (2022). Chlorophyll Pigments of *Caulerpa lentillifera* from Different Substrates in Tropical Marine Ecosystems. *Marine and Freshwater Research*, 73(4), 512-520.
- Syarifuddin, A., Syam, R., & Understanding, P. (2020). Growth Performance of *Caulerpa lentillifera* under Different Light Intensities in Indoor Cultivation System. *IOP Conference Series: Earth and Environmental Science*, 564, 012022. <https://doi.org/10.1088/1755-1315/564/1/012022>
- Syarifuddin, M., Rahman, A., & Pratama, I. (2021). Growth performance and chlorophyll content of *Caulerpa lentillifera* cultivated under different LED wavelengths. *AACL Bioflux*, 14(3), 1523-1531. <http://www.bioflux.com.ro/aac1>
- Taiz, L., Zeiger, E., Møller, I. M., & Murphy, A. (2023). *Plant Physiology and Development* (7th ed.). Sinauer Associates.
- Takaichi, S. (2019). Optimization of Light for Photosynthetic Microorganisms: Light-Harvesting and Growth. *Journal of Photochemistry and Photobiology B: Biology*, 195, 111531. <https://doi.org/10.1016/j.jphotobiol.2019.111531>
- Tanaka, R., & Takabe, T. (2022). Differential roles of chlorophyll a and b in photosynthesis: New insights from high-resolution spectroscopy. *Journal of Photochemistry and Photobiology B: Biology*, 226, 112368.
- Terashima, I., Fujita, T., Inoue, T., Chow, W. S., & Oguchi, R. (2009). Green light drives leaf photosynthesis more efficiently than red light in strong white light: revisiting the enigmatic question of why leaves are green. *Plant and Cell Physiology*, 50(4), 684-697.
- Tran, H. D., Do, T. T., Le, T. L., & Nguyen, P. Q. (2020). Improved growth and metabolite production in green seaweed *Caulerpa lentillifera* by blue and red LED lighting. *Journal of Applied Phycology*, 32(4), 2649-2660.
- Wang, C., Huang, J., & Zhou, B. (2022). Pigment composition and photosynthetic characteristics of green macroalgae from different light environments: Implications for adaptive evolution. *Marine Biology*, 169(4), 42-57.
- Wang, L., Chen, H., & Zhang, X. (2023). Supramolecular organization of chlorophyll in thylakoid membranes revealed by cryo-electron microscopy. *Nature Plants*, 9(7), 878-889.

- Wang, L., Sun, Y., Chen, H. (2019). Comparative analysis of different artificial light sources on microalgal growth and biochemical composition. *Bioresource Technology*, 292, 121884.
- Wiencke, C., & Bischof, K. (Eds.). (2012). *Seaweed Biology: Novel Insights into Ecophysiology, Ecology and Utilization* (Vol. 219). Springer Science & Business Media. ISBN: 978-3642283505
- Winter, K., & Smith, J. A. C. (2023). Crassulacean acid metabolism: a continuous innovation in photosynthetic carbon assimilation. *Annual Review of Plant Biology*, 74, 329-354.
- Xu, J., & Liu, Z. (2024). Structural characterization of chlorophyll-protein complexes using high-resolution X-ray crystallography and NMR spectroscopy. *The Journal of Biological Chemistry*, 299(2), 102887.
- Yamamoto, H., Kato, S., & Fujita, Y. (2023). Species-specific preferences for inorganic carbon species in diverse microalgae revealed by ^{13}C and ^{14}C tracing. *Algal Research*, 68, 102886.
- Yan, Z., He, D., Niu, G., & Zhai, H. (2020). Evaluation of growth and quality of hydroponic lettuce at harvest as affected by the light intensity, photoperiod and light quality at seedling stage. *Scientia Horticulturae*, 272, 109476.
- Yang, Z., Chen, Y., & Zhang, D. (2023). Carbon acquisition mechanisms and photosynthetic carbon fixation in *Caulerpa* at different inorganic carbon concentrations. *Journal of Phycology*, 59(2), 336-349.
- Yong, W. T. L., Chin, J. Y., Thien, V. Y., & Yasir, S. (2024). Advances in sustainable cultivation of *Caulerpa*: Temperature control strategies for optimizing biomass production. *Journal of Applied Phycology*, 36(1), 123-136.
- Yong, W. T. L., Chin, J. Y., Thien, V. Y., & Yasir, S. (2024). Optimization of cultivation parameters for *Caulerpa*: Combined effects of light intensity and temperature on growth performance. *Journal of Applied Phycology*, 36(1), 123-136.
- Zenk, S., Bischof, K., & Bartsch, I. (2023). Photoacclimation of chlorophyll a/b ratios in marine macroalgae: Taxonomic patterns and ecological significance. *Frontiers in Marine Science*, 10, 1132764.
- Zhang, X., Zhao, P., & Xu, J. (2020)^a. Combined effects of light intensity and temperature on the physiological responses of *Caulerpa racemosa*: A factorial experimental approach. *Aquaculture Research*, 51(7), 2732-2743.
- Zhang, X., Zhao, P., & Xu, J. (2020)^b. Physiological responses of *Caulerpa lentillifera* to different salinities and temperature: Implications for large-scale cultivation. *Aquaculture Research*, 51(7), 2732-2743.
- Zhang, Y., Liu, G., Dong, S., & Liu, Y. (2020)^c. LED Light Quality and Intensity Effects on Microalgal Growth and Biochemical Composition. *Bioresource Technology*, 312, 123556. <https://doi.org/10.1016/j.biortech.2020.123556>
- Zhang, L., Wang, W., & Lin, S. (2021)^a. Characterization of light-harvesting complexes in *Caulerpa* and related green macroalgae: Evolutionary adaptations to underwater light environments. *Algal Research*, 56, 102312.
- Zhang, H., & Wang, L. (2021)^b. Temperature modulates nitrogen assimilation enzymatic pathways in commercially valuable *Caulerpa* species. *Algal Research*, 55, 102257.

- Zhang, R., Liu, Y., Li, K. (2021)^c. Green light penetration and its role in optimizing photosynthesis in dense algal cultures. *Algal Research*, 54, 102174
- Zheng, L., He, H., & Song, W. (2019). Application of light-emitting diodes and the effect of light quality on horticultural crops: A review. *HortScience*, 54(10), 1656-1661.
- Zheng, L., Wu, H., Yang, W., Wang, Y., & Dong, H. (2021). Light quality modulates growth and the expression of chlorophyll biosynthesis genes in strawberry seedlings. *Scientia Horticulturae*, 285, 110162.
- Zheng, S., Li, Y., & Sun, Y. (2023). Regulation of chlorophyll a:b ratio in response to varying light conditions: Mechanisms and physiological significance. *Plant, Cell & Environment*, 46(5), 1321-1335.
- Zhu, J., Liu, S., Wang, Y., Li, Y., & Zhang, Q. (2024). Optimizing light conditions for the cultivation of *Caulerpa lentillifera*: Implications for sustainable seaweed farming. *Aquaculture and Fisheries*, 9(1), 27-35.
- Zuldin, W. H., Ajikumar, J. M., & Yasir, S. M. (2020). The effect of different temperatures and light intensities on the growth of green macroalgae *Caulerpa lentillifera*. *Malaysian Journal of Science*, 39(3), 35-45.