

DAFTAR PUSTAKA

- Afrianto, E. & E. Liviawaty. 2005. Pakan Ikan. Penerbit Kanisius. Yogyakarta.
- Ai, N.S. 2012. Evolusi Fotosintesis Pada Tumbuhan. *Jurnal Ilmiah Sains*. 12 (1): 28-34.
- Alabduladhem, T. O., & Bordoni, B. 2021. Physiology, Krebs Cycle. In *StatPearls [Internet]*. StatPearls Publishing.
- Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., & Walter, P. 2002. How cells obtain energy from food. In *Molecular Biology of the Cell. 4th edition*. Garland Science.
- Amri, K. & I. Kanna. 2008. Budi Daya Udang Vaname Secara Intensif, Semi Intensif, dan Tradisional. PT. Gramedia: Jakarta.
- Amri, K. 2013. Budi Daya Udang Windu Secara Intensif. *AgroMedia*. 108 hal.
- Anggraeni, V.J., T. S. Wahyu, H. Kusriani & D. Kurnia. 2019. Aktivitas Antibakteri Ekstrak Mikroalga *Thalassiosira* sp. Terhadap Bakteri *Staphylococcus aureus*, *Staphylococcus epidermidis* dan *Propionibacterium acne*. *Jurnal Kimia Riset*. 4 (1): 62-73.
- AOAC [Association of Official Analytical Chemists]. 1990, Official methods of analysis, 12th Edition. Association of Official Analytical Chemists. Washington, D.C.
- Banerjee, S., W. E. Hew, H. Khatoon, M. Shariff & F.M. Yusoff. 2011. Growth and Proximate Composition of Tropical Marine *Chaeratos calcitrans* and *Nannochloropsis oculata* Cultured Outdoors and Under Laboratory Conditions. *Africal Journal of Biotechnology*. 10 (8):1375-1383.
- Barman, P. K. Pal, S.K. Halder, & P. Bandyopadhyay. 2022. The Commercial Perspective of Probiotics and Bioremediating Components in Aquaculture Pond Management: A Case Study. *Prebiotics, Probiotics and Nutraceuticals*. Springer. 113-132.
- BPBAP (Balai Perikanan Budidaya Air Payau) Takalar. 2018. Tabel dan Gambar Ciri-Ciri Perkembangan Stadia Larva Udang. Divisi Pembenihan Udang Windu Balai Perikanan Budidaya Air Payau-Takalar.
- Bligh, E.G. & Dyer, W.J. 1959. A rapid method of total lipid extraction and purification. *Can. J. Biochem. Physiol.* 37 (8): 911–917.
- Campbell, N.A., J.B. Reece, & L.G. Mitchell. 2002. Biologi, Edisi Kelima, Jilid I. Penerbit Erlangga. Jakarta.
- Chappell, P.D., L.A.P. Whitney, T.L.Haddock, S. Menden-Deuer, E.G. Roy, M. L. Wells & B.D. Jenkins. 2013. *Thalassiosira* spp. community composition shifts in response to chemical and physical forcing in the northeast Pacific Ocean. *Frontiers in Microbiology*. 4 (273): 1-14.
- Chen, C.Y. & E. G. Durbin. 1994. Effects of pH on the growth and carbon uptake of marine phytoplankton. *Marine Ecology Progress Series*. 109: 83-94.

- Effendi, H. 2003. Telaah Kualitas Air Bagi Pengelolaan Sumber Daya dan Lingkungan Perairan. Penerbit Kanisius. Yogyakarta.
- Erlangga, A. Andira, Erniatia, Mahdaliana, & Muliani. 2021. Increased density of *Thalassiosira* sp. with different doses of silicate fertilizer. *Acta Aquatica: Aquatic Sciences Journal*. 8 (3): 167-174.
- Etesami E., S. Jorjani & M. Noroozi. 2022. Improvement of *Thalassiosira weissflogii* as high valuable nutritional feed. *Iranian Journal of Fisheries Sciences*. 21 (1): 15-32.
- Fakhri, M., Sanudi, N.B. Arifin, A.W.Ekawati, A.Yuniarti & A.M.Hariati. 2017. Effect of Photoperiod Regimes on Growth, Biomass, and Pigment Content of *Nannochloropsis* sp. BJ17. *Asian Journal of Microbiol Biotechnology Environmental Science*. 19 (2): 263-267.
- FAO. 1996. Manual on the production and use of live food for aquaculture. FAO Fisheries Technical Paper 361. Food and Agriculture Organization of the United Nations. Rome. 295p.
- Faqih, A. 2013. Teknologi Budidaya Udang Windu Air Tawar. Universitas Brawijaya Press. Malang. 130 Hal.
- Farchan, M. & M. Mulyono. 2011. Dasar-Dasar Budidaya. STP Press. Jakarta. 170 hal.
- Flickinger, S. 2016. *Thalassiosira* Community Composition and Diversity in Narragansett Bay [Thesis]. University of Rhode Island. 880p.
- Fried, G.H. & Hademenos, G.J. 2005. Biologi, Edisi Kedua. Penerbit Erlangga. Jakarta.
- Fujaya, Y. & A. Sudaryono. 2015. Fisiologi Ikan dan Aplikasinya pada Perikanan. Pustaka *Al-Zikra*. Makassar.
- Garcia, N., J.A. López-Elías, A. Miranda, M. Martínez-Porchas, N. Huerta & Antonio García. 2012. Effect of salinity on growth and chemical composition of the diatom *Thalassiosira weissflogii* at three culture phases. *Latin American Journal of Aquatic Research* . 40(2): 435-440,
- Gunarto, A. Parenrengi & E. Septiningsih. 2016. Crablet of Mud Crab *Scylla Olivacea* Production from the Different Stages of Larvae fed *Artemia* Nauplii Enriched Using *Nannochloropsis* sp. *International Journal of Agriculture System (IJAS)*. 4 (2): 132-146.
- Harris, A.S.D., L.K. Medlin, J. Lewis & K.J. Jones. 1995. *Thalassiosira* species (*Bacillariophyceae*) from a Scottish sea-loch. *European Journal of Phycology*. 30 (2): 117-131.
- Hasrianti, Damis, A. R. S. Putri. 2022. Modifikasi Ampas Tahu Menjadi Bahan Baku Pakan Udang dan Ikan. *Media Sains Indonesia*. 76 Hal.
- Henggu, K. U., & Nurdiansyah, Y. 2021. Review dari Metabolisme Karbohidrat, Lipid, Protein, dan Asam Nukleat. *QUIMICA: Jurnal Kimia Sains dan Terapan*. 3(2): 9-17.
- Herawati, V.E., Pinandoyo, Y.S. Darmanto, N. Rismaningsih, J.Hutabarata, S.t B.Prayitno & O. K. Radjasa. 2020, Effect of feeding with *Phronima* sp. on

- growth, survival rate and nutrient value content of Pacific white shrimp (*L. vannamei*) Post-larvae. *Aquaculture*. 59: 1-7.
- Hung, N.T. 2017. Effect Of Temperature, Light on the Growth and Lipid Accumulation of *Nannochloropsis oculata*. *International Journal of Applied Environmental Sciences*. 12 (3): 449-455.
- Iba, W., M.A. Rice & G. H. Wikfors. 2014. Microalgae in Eastern Pacific White Shrimp, *L. vannamei* (Boone 1931) hatcheries: A Review on Roles and Culture Environments. *Asian Fisheries Science*. 27: 212-233.
- Indrayani, Haslianti, Asmariani, W.H. Muskita, & M. Balubi. 2020, Growth, biomass and lipid productivity of a newly isolated tropical marine diatom, *Skeletonema* sp. UHO29, under different light intensities. *Biodiversitas*. 21 (4): 1498-1503.
- Javeed, A., S. Salleh, A. Darif & M. Mohammad. 2018. Morphological Examination of The *Thalassiosira* spp. In Teluk Bahang, Penang. *Scripta Biologica*. 5 (1): 7-11.
- Karim, M. Y. 2013. Kepiting Bakau (*Scylla* spp.) (Bioteknologi, Budidaya dan Pembenihannya). Yasrif Watampone. Jakarta.
- Karim, M.Y., Zainuddin & S. Aslamyah. 2015. Pengaruh Suhu Terhadap Kelangsungan Hidup dan Laju Metamorfosis Larva Kepiting Bakau (*Scylla olivacea*). *J. Fish. Sci.* XVII (2): 84-8.
- Kementrian Kelautan dan Perikanan. 2020, Permen KP Nomor 17 Tahun 2020 tentang : Rencana Strategis Kementerian Kelautan dan Perikanan Tahun 2020 – 2024.
- Keputusan Menteri Negara Lingkungan Hidup Nomor 51 Tahun 2004 Tentang Baku Mutu Air Laut.
- Khaeriyah, A. 2013. Aplikasi Pemberian Alga Pasta *Thalassiosira* Dengan Dosis Yang Berbeda Terhadap Pertumbuhan Rotifera *Brachionus rotundiformis* Skala Laboratorium. *Jurnal Ilmu Kelautan*. 2 (2): 173-177.
- Khanjani, M.H, M. Alizadeh & M.Sharifinia. 2019. Rearing of the Pacific white shrimp, *L. vannamei* in a biofloc system: The effects of different food sources and salinity levels. *Aquaculture Nutrition*. 1-10,
- Klassen, O. B., S. Chaudari, V. Klassen, R. Wondenweber, T. Steffens, D. Cholewa, K. Niehaus, J. kalinowksi dan O. Kurse. 2018. Metabolic survey of *Botryococcus braunii*: impact of the physiological state on product formation. *Plos One*. 1-23.
- Kociolek, J.P., S. Blanco, M. Coste, L. Ector, Y. Liu, B. Karthick, M. Kulikovskiy, N. Lundholm, T. Ludwig, M. Potapova, F. Rimet, K. Sabbe, S. Sala, E. Sar, J. Taylor, B. Van de Vijver, C.E. Wetzel, D.M. Williams, A. Witkowski & J. Witkowski. 2005. DiatomBase. *Thalassiosira pseudonana* Hasle & Heimdal, 1970, Accessed through: World Register of Marine Species at: <https://marinespecies.org/aphia.php?p=taxdetails&id=148934> on 2022-07-16.
- Kong, F., Z. Ran, J. Zhang, M. Zhang, K. Wu, R. Zhang, K. Liao, J. Cao, L. Zhang, J. Xu, & X.Yan. 2021. Synergistic effects of temperature and light intensity on growth and physiological performance in *Chaetoceros calcitrans*. *Aquaculture Reports*. 1-7.

- Kristiawan, O., Z. L. Agustin, D. A. Hanupurti, R. Nirwawan & D. Hendrayanti. 2018. Pengaruh Bikarbonat Terhadap Pertumbuhan Mikroalga *Nannochloropsis* sp. Sebagai Sumber Biomassa Biofuel. *Lembaran Publikasi Lemigas*. 52 (2): 3-5.
- Lante, S., Usman & A. Laining. 2015. Influence of Dietary Protein Levels on Growth And Survival Rate Of Transgenic Tiger Prawn. *J. Fish Sci*. XVII (1): 10-17
- Lu, Q., H. Li, Y. Xiao & H. Liu. 2021. A state-of-the-art review on the synthetic mechanisms, production technologies, and practical application of polyunsaturated fatty acids from microalgae. *Algal Research*. 55: 1-13.
- Mai, T.D., K.J.Lee-Chang, I.D. Jameson, T. Hoang, N.B.A Cai & H.Q. Pham. 2021. Fatty Acid Profiles of Selected Microalgae Used as Live Feeds for Shrimp Postlarvae in Vietnam. *Aquaculture Journal*. 1: 26–38.
- Mangampa, M. & H. S. Suwoyo. 2010, Budidaya Udang Vaname (*L. vannamei*) Teknologi Intensif Menggunakan Benih Tokolan. *J. Ris. Akuakultur*. 5 (3): 351-361
- Manzi, J.J., M.B. Maddox, & P.A. Sandifer. 1977. Algal supplement enrichment of *Macrobrachium rosenbergii* (De Man, 1879) larviculture. *Journal of the World Mariculture Society*. 8: 207-223.
- Marbun, J., E. Haerpeni & Wardyanto. 2019. Penanganan Penyakit *White Feces* Pada Udang Vaname *L. vannamei* Menggunakan Aplikasi Pakan yang dicampur Ekstrak Lengkuas Merah *Alpinia Purpurata* K. Schum. *Jurnal Ilmu-Ilmu Perairan, Pesisir dan Perikanan*. 8 (2): 76-86.
- Marzuqi, M., I. Rusdi, N. A. Giri, & K. Suwiryana. 2006. Pengaruh Proporsi Minyak Cumi dan Minyak Kedelai sebagai Sumber Lemak dalam Pakan Terhadap Pertumbuhan Juvenil Kepiting Bakau (*Scylla paramamosain*). *J. Fish. Sci*. vol. VIII, no. 1: 101-107.
- Maynardo, J.J., V. Doshi, J. R. Rajanren & R. Rajasekaran. 2015. The Optimization Of Light Intensity And Drying Temperature On Lipid Content Of Microalgae *Nannochloropsis oculata*. *Journal of Engineering Science and Technology*. 112-121.
- Mukharomah, E. 2021. Konsep Dasar Ekologi Tumbuhan. Bening Media Publishing. Palembang. 181 hal.
- Murtidjo, B. A. 2003. Benih Udang Windu Skala Kecil. Penerbit Kanisius. Yogyakarta.
- Noerdjito, D.R. 2017. Perkembangan, Produksi, dan Peran Kultur Mikroalga Laut Dalam Industri. *Oseana*. XLII (1): 18-27.
- Nolasco-Alzaga, H.R., R. Perez-Enriquez, F.Enez, A. Bestin, E. Palacios-Mechetnov & P. Haffray. 2018. Quantitative genetic parameters of growth and fatty acid content in the hemolymph of the Whiteleg shrimp *L. vannamei*. *Aquaculture*. 482:1-7.
- Nontji, A. 2008. Plankton Laut. LIPI Press. Jakarta. 331 hal.
- Nugroho, S.H. 2019. An Overview of Diatom and Its Applications on The Geoscience Area. *Oseana*. 44 (1): 70-87.

- Nuntung, S., A.P.S. Idris, & Wahidah. 2018. Teknik Pemeliharaan Larva Udang Vaname (*L. vannamei* Boone) di PT Central Pertiwi Bahari Rembang, Jawa Tengah. Prosiding Seminar Nasional Sinergitas Multidisiplin Ilmu Pengetahuan dan Teknologi (SMIPT). 1 : 137-143.
- Park, J.S., S. W. Jung, J.S Ki, R. Guo, H. J. Kim, K.W. Lee & J. H. Lee. 2017. Transfer of the small diatoms *Thalassiosira proschkiniae* and *T. spinulata* to the genus *Minidiscus* and their taxonomic re-description. *PLoS ONE*.12 (9): 1-20,
- Perez-Morales, A., C.J. Band-Schmidt & S.F.Martinez-Diaz. 2016. *Changes in Mortality Rates During The Larva Stage of Pasific White Shrimp (L. vannamei) on The Basis of Algal (Chaetoceros calcitrans or Tetraselmis suecica) Food Density. EPA (Ecosistemas Recursos Agrpecuarios)*. 3 (9): 415-420,
- Pinandoyo, T. Elfitasari, S. Windarto & V. E. Herawati. 2021. Growth Performance and Nutrient Value of *Nereis virens* Fed by *Thalassiosira* sp. and *Navicula* sp. *Journal of Hunan University (Natural Sciences)*. 48 (7): 256-265.
- Prayitno, J. 2016. Pola Pertumbuhan dan Pemanenan Biomassa dalam Fotobioreaktor Mikroalga untuk Penangkapan Karbon. *Jurnal Teknologi Lingkungan*. 17 (1): 45-52.
- Putri, D.S., D.A. Sari, Marianah, S.P.Astuti, & I.G A.S.Wangiyana. 2021. Effect of medium type, light intensity, and photoperiod on the growth rate of microalgae *Chlorococccum* sp. local isolate. *IOP Conf. Series: Earth and Environmental Science*. 913: 1-8.
- Qin, Z., X. Xia, G. Mai, Y. Tan & G. Li. 2021. Differential Physiological Responses of Small *Thalassiosira pseudonana* and Large *Thalassiosira punctigera* to the Shifted-High Light and Nitrogen. *Journal of Maine Science and Engineering*. 9 (450): 1-14.
- Rasdi N.W., M. Ikhwannuddin, C.A. Syafika, N. Azani & A. Ramli. 2021. Effects of using enriched copepod with microalgae on growth, survival, and proximate composition of giant freshwater prawn (*Macrobrachium rosenbergii*). *Iranian Journal of Fisheries Sciences* 20(4): 986-1003.
- Romano, N., & C. Zeng. 2017. Cannibalism of Decapod Crustaceans and Implications for Their Aquaculture: A Review of its Prevalence, Influencing Factors, and Mitigating Methods. *Reviews in Fisheries Science & Aquaculture*. 25 (1): 42-69.
- Roncaglia, B., A. Papini, G. C. Zittelli, L. Rodolfi & Mario R. Tredici. 2021. Cell wall and organelle modifications during nitrogen starvation in *Nannochloropsis oceanica* F&M-M24. *Journal of Applied Phycology*. 33: 2069-2080,
- Sanchez-Bayo, A., V. Morales, R. Rodríguez, G. Vicente & L. F. Bautista. 2020, Cultivation of Microalgae and Cyanobacteria: Effect of Operating Conditions on Growth and Biomass Composition. *Molecules*. 25 (12).
- Sandeep, K.P., S. Avunje, J. S. Dayal, C. P. Balasubramanian, P. B. Sawant, N. K. Chadha, K. Ambasankar & K. K. Vijayan. 2021. Efficiency of different microalgae as monospecific and bispecific diets in larval rearing of *Penaeus indicus* with special reference to growth, nutrient composition and antimicrobial activity of microalgae. *Aquaculture Research*. 1–9.

- Santhanam, P., S. Dinesh Kumar, S. Ananth, S. Jeyanthi, R. Sasirekha & C. Premkuma. 2017. Effect of Culture Conditions on Growth and Lipid Content of Marine Microalga *Nannochloropsis* sp. strain (PSDK11). *Indian Journal of Geo Marine Sciences*. 46 (11): 2332-2338.
- Santos, A.D.A., J. F.López-Olmeda, F. J. Sánchez-Vázquez & R. Fortes-Silva. 2016. Synchronization to light and mealtime of the circadian rhythms of self-feeding behavior and locomotor activity of white shrimps (*L. vannamei*). *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*. 199: 54-61.
- Sari, I. & A. Manan. 2012. Pola Pertumbuhan *Nannochloropsis oculata* Pada Skala Laboratorium, Intermediet, dan Massal. *Jurnal Ilmiah Perikanan dan Kelautan*. 4 (2): 123-127.
- Sheehan, C.E., K. G. Baker, D. A. Nielsen & K. Petrou. 2020, Temperatures above thermal optimum reduce cell growth and silica production while increasing cell volume and protein content in the diatom *Thalassiosira pseudonana*. *Hydrobiologia*. 1-16.
- Shiau, S.Y. 1998. Nutrient requirement of penaeid shrimp. *Aquaculture*. 164: 77-93.
- SNI [Standar Nasional Indonesia] 01-2891-1992. Cara Uji Makanan dan Minuman. BSN (Badan Standarisasi Nasional).
- SNI [Standar Nasional Indonesia] 7311: 2009. Produksi Benih Udang Vaname (*L. vannamei*) Kelas Benih Sebar. BSN (Badan Standarisasi Nasional).
- Sumbono, A. 2021. Lipida Seri Biokimia Pangan Dasar. Deepublish. Yogyakarta. 89 hal.
- Supono. 2018. Manajemen Kualitas Air Untuk Budidaya Udang. AURA (CV. Anugrah Utama Raharja) Anggota IKAPI. Bandar Lampung.
- Susilo, B., R. Damayanti & N. Izza · 2017. Teknik Bioenergi. Universitas Brawijaya Press. Malang. 264 hal.
- Suyanto, S.R. & E. P. Takarina. 2009. Panduan Budi Daya Udang Windu. Penebar Swadaya. Jakarta
- Suyanto. S.R. & A. Mudjiman. 2005. Budi Daya Udang Windu. Penebar Swadaya. Jakarta.
- Tam, L.T., N.V.Cong, L.T.Thom, N.C.Ha, N.T.M.Hang, C.V.Minh, D.T.H. Vien & D. D. Hong. 2021. Cultivation and biomass production of the diatom *Thalassiosira weissflogii* as a live feed for white-leg shrimp in hatcheries and commercial farms in Vietnam. *Journal of Applied Phycology*. 1-19.
- Tang, Y., R. Wang, L. Tan, L. Guo, Y. Duan, L. Yang, S.Jiang, F. Zhou, S. Jiang & J. Huang. 2020, Effects of live microalgae and algae powder on microbial community, survival, metamorphosis and digestive enzyme activity of *Penaeus monodon* larvae at different growth stages. *Aquaculture*. 1-12.
- Udayan, A.,H. Sabapathy, & M. Arumugam. 2020, Stress hormones mediated lipid accumulation and modulation of specific fatty acids in *Nannochloropsis oceanica* CASACC201. *BioresourceTechnology*. 30: 1-9.

- Utami, N.P., Y. MS & K. Haetami. 2012. Pertumbuhan *Chlorella* sp. yang Dikultur Pada Perioditas Cahaya yang Berbeda. *Jurnal Perikanan dan Kelautan*. 3 (3): 237-244.
- Viet, N.D., N.A Bac, & H.T.T. Huong. 2016. Dissolved oxygen as an indicator for eutrophication in freshwater lakes. In Proceedings of the International Conference on Environmental and Management for Sustainable Development. 1–6.
- Ventura, T., F. Palero, G. Rotllant & Q.P.Fitzgibbon. 2017. Crustacean metamorphosis: an omics perspective. *Hydrobiologia*. 1-14.
- Wiraatmaja, I.W. 2017. Bahan Ajar Fotosintesis. Universitas Udayana. Bali. 42 hal.
- WWF-Indonesia. 2014. Budidaya Udang Vannamei Tambak Semi Intensif dengan Instalasi Pengolahan Air Limbah (IPAL). Gedung Graha Simatupang: Jakarta Selatan.
- Zainuddin, Haryati dan S. Aslamyah. 2014. Effect of Dietary Carbohydrate Levels and Feeding Frequencies on Growth and Carbohydrate Digestibility by White Shrimp *L. vannamei* Under Laboratory Conditions. *J Aquac Res Development*. 5 (6): 1-4.
- Zainuddin, Haryati & S. Aslamyah. 2017. Pengaruh Berbagai Sumber Karbohidrat Pakan Terhadap Pertumbuhan Dan Sintasan Juvenil Udang Vannamei *L. vannamei*. *Agrokomplek*. 16 (1): 7-11.
- Zainuddin, S. Aslamyah, K. Nur, & Hadija. 2019. The Effect of Dosage Combination and Feeding Frequency on Growth and Survival Rate of Vannamei Shrimp Juveniles in Ponds. *IOP Conf. Series: Earth and Environmental Science*. 370: 1-7.
- Zanella, L. & F. Vianello. 2020, Microalgae of the genus *Nannochloropsis*: Chemical Composition and Functional Implications for Human Nutrition. *Journal of Functional Foods*. 68 : 1-13.
- Zghaibi, N., R.Omar, S.M.M. Kamal, D.R.A.Biak & R. Harun. 2019. Microwave-Assisted Brine Extraction for Enhancement of the Quantity and Quality of Lipid Production from Microalgae *Nannochloropsis* sp. *Molecules*. 24: 1-21.
- Zhang, R., Z. Kong, S.Chen, Z. Ran, M.Ye, J.Xu, C. Zhou, K. Liao, J.Cao, & X.Yan. 2017. The comparative study for physiological and biochemical mechanisms of *Thalassiosira pseudonana* and *Chaetoceros calcitrans* in response to different light intensities. *Algal Research*. 27: 89-98.