

## DAFTAR PUSTAKA

- Agard, J., Kishore, R., Bayne, B. 1992. *Perna viridis* (Linnaeus, 1758). First Record of The Indo-Pacific Green Mussel (Mollusca: Bivalvia) in The Carribean. *Carribean Marine Studies*. Vol. 3 : 59-60.
- Agustiyani, D., Imamuddin, H., Faridah, E.N., Oedjijono. 2004. Pengaruh pH dan substrat organik terhadap pertumbuhan dan aktivitas bakteri pengoksidasi amonia. LIPI-Bogor. *Jurnal Biodiversitas*. Vol. 5 (2) : 43–47.
- Alexander, M. 1977. Introduction to Soil Microbiology. 2nd edition. Toronto: John Wiley and Sons.
- Amrizal. 1991. Analisa Kandungan Logam Berat Pb, Cd, Zn, dan Oil Content di Sekitar Pembuangan Limbah Industri Kilang Minyak Sei Pakning Kabupaten Bengkalis. *Skripsi*. FMIPA Universitas Riau, Pekanbaru.
- Ariens, E.J., Simonis, A.M., & Offermeier, J. 1976. Introduction to General Toxicology. Academic Press, New York.
- Badan Pengelolaan Lingkungan Hidup Sulawesi Utara. 2009. Status Lingkungan Hidup Daerah Sulawesi Utara. Badan Pengelolaan Lingkungan Hidup Sulawesi Utara. Manado.
- Badan Pusat Statistik. 2016. Kota Makassar dalam Angka 2018. Badan Pusat Statistik Kota Makassar. Katalog: 1102001.7371.
- Badan Pusat Statistik. 2018. Kota Makassar dalam Angka 2018. Badan Pusat Statistik Kota Makassar. Katalog: 1102001.7371.
- Bagarinao, T. 1992. Sulfide as an Environmental Factor and Toxicant: Tolerance and Adaptations in Aquatic Organisms. *Aquatic Toxicol*. Vol. 24 : 21–62.
- Baker, P., Fajans, J., & Bergquist, D. 2003. Invasive Green Mussels, *Perna viridis* on Mangroves and Oyster Reefs in Florida. *Proceedings of The Third International Conference on Marine Bioinvasions*. La Jolla, California, USA. Hal : 16-19.
- Bamum, S. R.t. 2005. Biotechnology An Introcuction. Edition 2. Miami University. USA. Hal: 323.
- Benson, A.J., Marelli, D.C., Frischer, M.E., Danforth, J.M., Williams, J.D. 2001. Establishment of The Green Mussel, *Perna viridis* (Linnaeus, 1758), (Mollusca Mytilidae) on The West Coast of Florida. *Journal of Shelfish Reserch*. Vol. 20 (1): 21-29.
- Boyd, C. E. 1989. Water Quality Management and Aeration Shrimp Farming. US Wheat Associates.
- Brim, H., Mc. Farlan, S.C, Fredrickson, J.K., Minton, K.W, Zhai, M., Wackeit, L.P and M.J. 2000. Engineering Deinococcus Radiodurans for Metal Remediation in active Mixed Waste Environments. *Nature Biotechnology*. Vol. 18 (1) : 85-90.
- & Hendrik A.W. 2008. Beberapa Aspek Biologi Kerang Hijau *Perna viridis* Linnaeus 1758. *Oseana*. Vol. 33 (1) : 33 – 40.



- Carpenter, K.E., Niem, V.H. 1998. The Living Marine Resources of The Western Central Pacific: Seaweeds, Corals, Bivalves and Gastropods. Central Pacific.
- Cary, S.C., Vetter R.D., Felbeck H. 1989. Habitat Characterization and Nutritional Strategies of the Endosymbiont-bearing Bivalve *Lucinoma aequizonata*. *Mar Ecol Prog Ser*. Vol. 55 : 31–45.
- Cheremisinoff, N.P. 1996. Biotechnology for Waste and Wastewater Treatment. Noyes Publications. Westwood. New Jersey 07675. ISBN. 0-8155-1409-3.
- Damaianto, B & Masdugi, A. 2014. Indeks Pencemaran Air Laut Pantai Utara Kabupaten Turban dengan Parameter Logam. *Jurnal Teknik Pomits*. Vol. 13 : 1-4.
- Dahuri, R. 2001. Pengelolaan Sumberdaya Wilayah Pesisir dan Lautan Secara Terpadu. PT. Pradnya Paramita, Jakarta.
- Dame, R.F. 1996. Ecologi of Marine Bivalves: an Ecosystem Approach CRC Press, Boca Raton, Florida, USA.
- Darmono. 1995. Logam Dalam Sistem Biologi Makhluk Hidup. *Skripsi*. Universitas Indonesia. Jakarta.
- Direktorat Jendral Perikanan. 1982. Petunjuk Teknis Budidaya Laut Jakarta. Ditjen Perikanan, Jakarta.
- Effendi, H. 2003. Telaah Kualitas Air bagi Pengelolaan Sumberdaya dan Lingkungan Perairan. *Kanisius*. Yogyakarta.
- Esoy, A., Odegaard, H., Bentzen, G., 1998. The Effect of Sulphide and Organic Matter on the Nitrification Activity in Biofilm Process. *Water Science Technology*. Vol. 37 (1) : 115–122.
- Fardiaz, S. 1992. Polusi Air dan Udara. *Kanisius*. Yogyakarta.
- Firdaus, A & Aunurohim. 2019. Pengaruh Pemberian Karboksimetil Kitosan (KMK) dalam Upaya Penurunan Kadar Logam Berat Kadmium (Cd) pada Kerang Hijau (*Perna viridis*, Linn) dari Perairan Teluk Lamong Surabaya. *Jurnal Sains dan Seni ITS*. Vol. 8 (02) : 2337-3520.
- Forteath, N., L. Wee and M. Frith. 1993. The Biological Filter-Structure and Function, p: 55-63. In P. Hart and D.O'Sullivan (Eds). *Recirculation System : Design, Concruction and Management*. University of Tasmania. Launceston.
- Glory Shine. 2013. Makalah Siklus Sulfur. Scrib (PDF). *Biogrol*. [www.http://iddamahfiroh.blogspot.com/2013/04/makalah-siklus-sulfur.html](http://iddamahfiroh.blogspot.com/2013/04/makalah-siklus-sulfur.html). Diakses pada Tanggal 20 Januari 2020.
- Guergueb, S., A. Latifa., R. Djamai., D.J. Fadel. 2015. Concentration Study Level of Nitrogen and Mineral Phosphorus Eutropication and Impact of The Mount of Wadi El-Kebir East (W.EL-TARF). *Journal of Chemical and Pharmaceutical Reserch*. (9) : 602-608.

S. 2011. Hubungan Keadaan Kimiawi dan Mikrobiologi Ikan Pindang Naya Penyimpanan Suhu Kamar dengan Sifat Organoleptiknya. *Jurnal Agritech*. 5 (1,2,3) : 19-23.



- Hamzah. 2007. Model Pengelolaan Pencemaran Perairan Pesisir Bagi Keberlanjutan Perikanan dan Wisata Pantai Kota Makassar. *Skripsi*. Institut Pertanian Bogor. Bogor.
- Harahap, S. 2013. Pencemaran Perairan Akibat Kadar Amoniak yang Tinggi dari Limbah Cair Industri Tempe. *Jurnal Akuatika*. Vol. 4 (2) : 183-194.
- Hutabarat, S & S.M. Evans. 1985. Pengantar Oseanografi. Universitas Indonesia. Jakarta.
- Hutagalung, H.P & Rozak. 1997. Metode Analisis Air Laut, Sedimen dan Biota. P3O-LIPI. Jakarta.
- ISSG. 2005. *Perna viridis* Global Invasive Species Database. ISSG Online at <http://www.issg.org/database/species/ecology.asp/>. Diakses pada Tanggal 20 September 2019.
- Jahn, A & Theede, H. 1997. Different degrees of tolerance to hydrogen sulphide in populations of *Macoma balthica* (Bivalvia, Tellinidae). *Mar Ecol Prog Ser*. Vol. 154 : 185–196.
- Jahn, A., Janas, U., Theede, H., Szaniawska, A. 1997. Significance of body size in sulphide detoxification in the Baltic clam *Macoma balthica* (Bivalvia, Tellinidae) in the Gulf of Gdansk. *Mar Ecol Prog Ser*. Vol. 154 : 175–183.
- Kabangnga', A. 2019. Monitoring dan Mitigasi Bahan Limbah Organik dengan Menggunakan Biomarker Tepat Guna. Direktorat Riset dan Pengabdian Masyarakat. Direktorat Jendral Riset dan Pengembangan Kementerian Riset, Teknologi dan Pendidikan Tinggi Teknologi Kelautan Makassar.
- Kahle, J., Zauke, G.P. 2002. Bioakumulasi Logam Jejak di Calanoid *Copepod Metridia gerlachei* dari Laut Weddell (Antartika). *Sci Tot*. Vol. 295 : 1–16.
- Kennish, M.J. 1990. Ecology of Estuaries. Boca Radon. Florida. CRC Press.
- Kuriakose, P.S & Nair, N.B. 1976. The Genus *Perna* along The Coast of India with Description of a New Species, *Perna indica*. *Aquatic Biology*. Vol. 1 : 25-36.
- Laudien, J., Schiedek, D., Brey, T., Pörtner, H.O., Arntz, W.E. 2002. Survivorship of Juvenile Surf Clams *Donax serra* (Bivalvia, Donacidae) Exposed to Severe Hypoxia and Hydrogen Sulphide. *Exp Mar Biol Ecol*. Vol. 271 : 9–23.
- Lynch, J.M & N.J Poole. 1979. Micro- bial ecology a conceptual approach. *Blackwell Scient. Publications*, London : 266 pp.
- Maharani, D. 2003. Pengaruh Limbah Pabrik Pembibitan dan Pengalengan Jmur terhadap Faktor Lingkungan dan Jumlah Bakteri Thiobacillus di Sungai Wangon Aji Kabupaten Wonosobo. *Skripsi*. Surakarta: Jurusan Biologi FMIPA Universitas Sebelas Maret.



& Sara, G. 2001. The Effect of Fish Farming Organic Waste On Food Stability For Bivalve Mollusc (*Gaeta* Gulf, Central Tyrrhenian, MED): Stable Isotopic Analysis. *Aquaculture*. Vol. 192 (2,4) : 361-379.

- Menteri Negara Lingkungan Hidup. Keputusan Menteri Negara Lingkungan Hidup Nomor : Kep-05/MENLH/10/1995, tentang Pedoman Penetapan Baku Mutu Lingkungan.
- Morton, B. 1987. The Functional Morphology of The Orgas of The Mantle, Cavity of *Perna viridis* (Linnaeus, 1758) (Bivalvia: Mytilacea). *American Malacological Bulletin*. Vol. 5 (2) : 159-164.
- Nagasoe, S., Tatsuya, Y., Kengo, S., Yukio, M., Katsunori, K. 2011. Effects of Hydrogen Sulfide on The Feeding Activity of Manila Clam *Ruditapes philippinarum*. *Aquatic Biology*. Seikai National Fisheries Research Institute. Japan, Vol. 13 : 293–302.
- Nimpis. 2002. Asian Green Mussel. Diakses pada Tanggal 20 September 2019. National Introduced Marine Pest Information System SIRO Online at <http://www.marine.csiro.au/crimp/reports/Pernaviridis.sheet.pdf>.
- O'Brien, J & Vetter, R.D. 1990. Produksi tiosulfat selama oksidasi sulfida oleh mitokondria dari symbiont mengandung bivalve *Solemya reidi*. *Jurnal Exp Biol*. Vol. 149 : 133–148.
- Prins, T.C., Small, A.C., Dame, R.F. 1998. A Feedback Between The Bivalve Graing and Ecosystem Processes. *Aquatic Ecology*, Vol. 13 : 349-359.
- Putra, W.S. 2006. Laju Filtrasi Kerang Hijau (*Perna viridis* L.1758) dalam Mereduksi Bahan Tersuspensi. *Skripsi*. IPB. Bogor.
- Rahayu, S. 2017. Kondisi Lingkungan di Pantai Losari. *Artikel*. Ilmu Ekonomi. Universitas Hasanuddin. Makassar.
- Rahman, A. 2006. Kandungan Logam Berat Timbal (Pb) dan Kadmium (Cd) pada Beberapa Jenis Krustasea di Pantai Batakan dan Takisung Kabupaten Tanah Laut Kalimantan Selatan. *Bioscientiae*. Vol. 3 : 93-101.
- Ratledge, C. 1994. Biochemistry of Microbial Degradation. *Kluwer Academic Publisher*. Amsterdam.
- Reddy, N.A., & Menon, N.R. 1979. Effects of Ammonia and Ammonium on Tolerance and Byssogenesis in *Perna viridis*. *Marine Ecologi*. Vol. 1 : 315-321.
- Reynolds, A.H., Straub, K.D & Rentzepis, P. M. 1982. Picosecond Spectroscopy of Cu (II) Cytochrome C. *Biophysical Jurnal*. Vol. 40 : 27 – 31.
- Richardson, D.J. 2000. Bacterial respiration: a flexible process for a changing environment. *Jurnal Microbiology*. Vol. 146 : 551–571.
- Richardson, D.J., Berk, B.C., Ressel, D.A., Spiro, S., Taylor, C.J. 2001. Functional biochemical and genetic diversity of procaryotic nitrate reductase. *Cell. Mol. Lif*. Vol. 58 : 165–178.



2018. Daya Serap Biomassa Enceng Gondok (*Echornia crassipes*, Carls Terhadap Konsentrasi Logam Timbal (Pb). *Skripsi*. Fakultas Ilmu Kelautan erikanan, Universitas Hasanuddin. Makassar.

to, K. 1985. Kualitas Air dalam Budidaya Laut. Seafarming Workshop rt). *Seafarming Center*. Lampung.

- Rusmana, I. 2003b. Reduksi nitrat dissimilatif pada bakteri: isu lingkungan dan penerapannya. *Jurnal Hayati*. Hal : 158–160.
- Rylander, K., Perez, J., Gomez, J.A. 1996. Status of The Green Mussel, *Perna viridis* (Linnaeus, 1758) (Mollusca Mytilidae), in North-Eastern Venezuela. *Caribbean Marine Studies*. Vol. 5 : 86-87.
- Safrianti, I., Nelly, W & Titin, A.Z. 2012. Absorpsi Timbal (II) Oleh Selulosa Limbah Jerami Padi Teraktivasi Asam Nitrat : Pengaruh pH dan Waktu Kontak. Universitas Tanjungpura. *JKK*. Vol. 1 (1) : 1 – 7.
- Salle, A.J. 1961 . Fundamental Principles of Bacteriology. Fifth edition. *Mc Graw hill book company, Inc*. New York, 812 pp.
- Setyono, D.E.D. 2006. Karakteristik Biologi dan Produk Kekeperangan Laut. LIPI. *Oseana*, Vol. 31: 1-7.
- Siddall, S.E., 1980. A Clarification of The Genus *Perna* (Mytilidae). *Bulletin of Marine Science*. Vol. 30 (4) : 858-870.
- Sivalingam, P.M. 1977. Aquaculture of The Green Mussel, *Mytilus viridis* Linnaeus in Malaysia. *Jurnal Aquaculture*. Vol. 11 (4) : 297-312.
- Sivalingam, P.M. 1983. Aquaculture of Green Mussel *Mytilus viridis* L. in Malaysia. *Aquaculture*. No. 11 : 297- 312.
- Sudding, S.S & Dewi, A. 2012. Analisis Kadar Timbal (Pb) Pada Akar Api-api Putih (*A. alba*) di Saluran Pembuangan Jongaya Jalan Metro Tanjung Bunga Kota Makassar. Universitas Negeri Makassar, Makassar. *Jurnal Chemica*, Vol. 13(2): 26-32.
- Surakitti. 1989. Program Ilmu Fisik dan Ilmu Biologi. Intan Pariwara, Jakarta.
- Sutomo. 1989. Pengaruh Amoniak Terhadap Ikan dalam Budidaya Sistem Tertutup. LIPI. *Jurnal Oseana*. Vol. 14 (1),19-26.
- Suwignyo, P., J. Basmi & L. B. Djamar. 1984. Studi Beberapa Aspek Biologi Kerang Hijau *Mytilus viridis* di Teluk Jakarta. Fakultas Perikanan Institut Pertanian Bogor. Hal 10.
- Sylvia, D.M., Furbrmann, J.J., Hartel, P.G., Zuberer, D.A. 1990. Principles and Application of Soil Microbiology. New Jersey: Prentice Hall, Inc.
- Tan, W.H. 1975. Eggs and Larva Development in The Green Mussels, *Mytilus viridis* Linnaeus. *The Veliger*. Vol. 18, 151-155.
- Tantanasarit, C., S. Babel, A. Englande, J & Meksumpun, S. 2013. Influence of size and density on filtration rate modeling and nutrient uptake by green mussel (*Perna viridis*): *Marine pollution bulletin*. Vol. 68 (1–2): 38–45.
- Tantanasarit, C.M & Edward. 1993. Kondisi Hidrologi Perairan Teluk Kao Pulau Halmahera Utara. Pusat Penelitian Oseanografi-LIPI, Jakarta.
- Tantanasarit, C.S.E. Kartamihardja, & H. Supriyadi. 2001. Kemampuan Bakteri *Vibrio cholerae* sp. dalam Penguraian Senyawa Belerang dan Analisis Laju Pertumbuhan untuk Perbaikan Kualitas Air pada Budidaya Keramba Jaring Apung. *Jurnal Penelitian Perikanan Indonesia*. Vol. 7 (2) : 1-5.



- USGS. 2001. Green Mussel, *Perna viridis*, Non Indigenous species Information Bulletin. Diakses pada Tanggal 20 September 2019. US Geological Survey Online at <http://cars.er.usgs.gov/greenmussel4.pdf>.
- Vakily, J.M. 1989. The Biological and Cultur of Mussels of The Genus *Perna*. ICLARM Studies and Review No. 17, Manila.
- Vismann, B. 1991. Sulfide Tolerance: Physiological Mechanisms and Ecological Implications. *Ophelia*. No. 34 : 1–27.
- Völkel, S & Grieshaber, M.K. 1995. Sulfide Tolerance in Marine Invertebrates In Heisler N (ed) Mechanisms of Systemic Regulation: Acid-base Regulation, Ion Transfer and Metabolism (Advances in comparative and environmental physiology), Berlin. Springer-Verlag. Vol. 22, 233–257.
- Yaqin, K. 2019. Menyiasati Pencemaran Bau Busuk di Pantai Losari. *Artikel*. Tribun Timur. Makassar.
- Zonnerved, N., E.A. Huisman dan J.H. Boon. 1991. Prinsip – prinsip Budidaya Ikan. Diterjemahkan Oleh M. Sutjiwati. PT. Gramedia Pustaka Utama. Jakarta.
- Zumft, W.G., 1997. Cell biology and molecular basic of denitrification. *Microbiol and Mol Biol Rev*. Vol. 61 : 533 – 616.



## LAMPIRAN





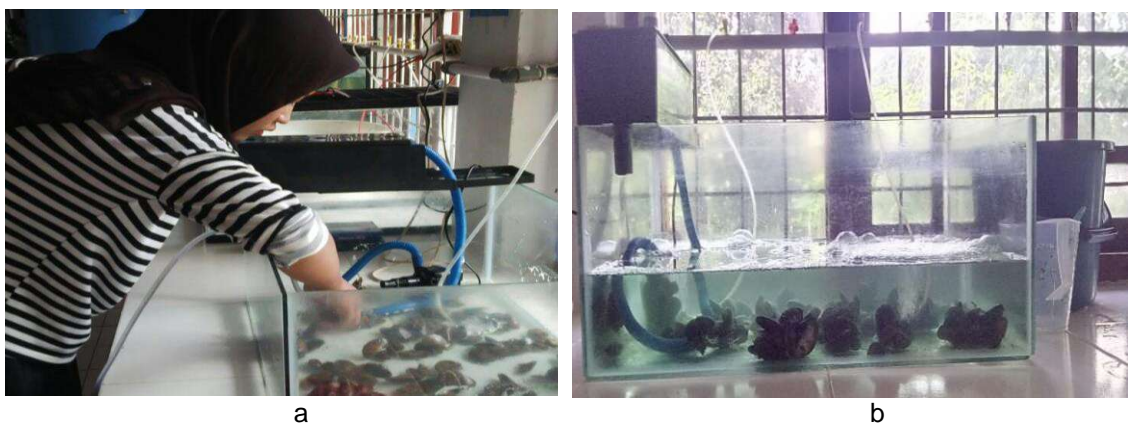
Lampiran 1. Dokumentasi



**Gambar 13.** Gambaran lokasi pengambilan sampel kerang hijau dan air limbah. (a): Perairan Labakkang, Kab. Pangkep; (b): Perairan Pantai Losari Makassar.



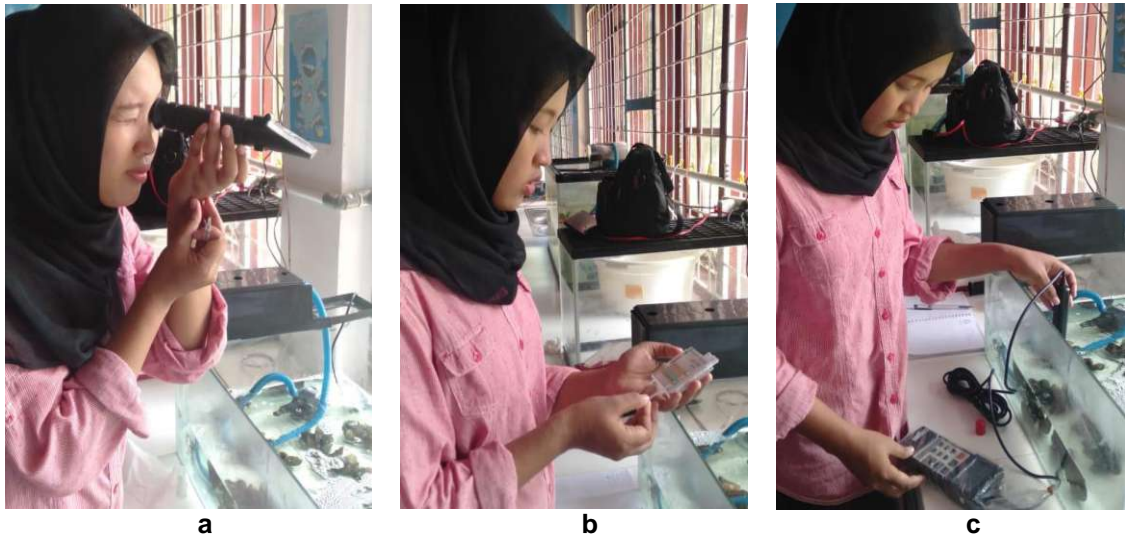
**Gambar 14.** Proses pengambilan sampel penelitian. (a): Pengambilan sampel kerang hijau (*Perna viridis*); (b): Pengambilan sampel air Limbah Pantai Losari.



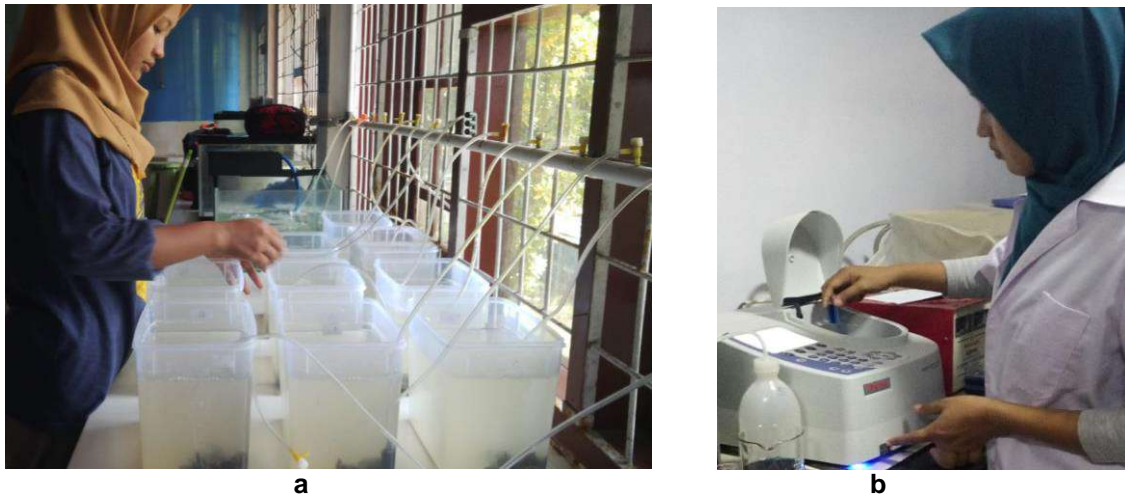
**Gambar 15.** Proses aklimatisasi kerang hijau (*Perna viridis*). (a): Penyiponan akuarium dan penggantian air media pemeliharaan; (b): Pemberian pakan *spirullina*.







**Gambar 16.** Proses pengukuran kualitas air media aklimatisasi kerang hijau. (a): Pengukuran salinitas air; (b): Pengukuran pH air; (c): Pengukuran oksigen terlarut dan suhu air.



**Gambar 17.** Proses percobaan penelitian. (a): Rancangan penelitian; (b): Analisis  $\text{NH}_3$  &  $\text{H}_2\text{S}$  dengan metode spektrofotometer



Sampel yang dianalisis menggunakan metode spektrofotometer. (a): Sampel amoniak ( $\text{NH}_3$ ); (b): Sampel hidrogen sulfida ( $\text{H}_2\text{S}$ ).

## Lampiran 2. Tabel

**Tabel 2.** Uji normalitas data amoniak (NH<sub>3</sub>)

KS normality test	
KS distance	0,2583
P value	0,0850
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
D'Agostino & Pearson omnibus normality test	
K2	3,282
P value	0,1938
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Shapiro-Wilk normality test	
W	0,7916
P value	0,0164
Passed normality test (alpha=0.05)?	No
P value summary	*
Sum	372,3

**Tabel 3.** Uji *one way ANOVA* data amoniak (NH<sub>3</sub>)

One-way analysis of variance			
P value	0,9983		
P value summary	ns		
Are means signif. different? (P < 0.05)	No		
Number of groups	3		
F	0,001663		
R square	0,0005539		
ANOVA Table	SS	df	MS
Treatment (between columns)	9,822	2	4,911
Residual (within columns)	17723	6	2954
Total	17732	8	



**Tabel 4.** Uji normalitas data hidrogen sulfida (H<sub>2</sub>S)

KS normality test	
KS distance	0,2156
P value	> 0,10
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
D'Agostino & Pearson omnibus normality test	
K2	1,415
P value	0,4929
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Shapiro-Wilk normality test	
W	0,8964
P value	0,2320
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Sum	337,5

**Tabel 5.** Uji *one way ANOVA* data hidrogen sulfida (H<sub>2</sub>S)

One-way analysis of variance				
P value	0,0210			
P value summary	*			
Are means signif. different? (P < 0.05)	Yes			
Number of groups	3			
F	7,875			
R square	0,7241			
ANOVA Table		SS	df	MS
Treatment (between columns)	4,200e-005	2	2,100e-005	
Residual (within columns)	1,600e-005	6	2,667e-006	
Total	5,800e-005	8		

**Tabel 6.** Uji *Tukey's Multiple Comparison Test*

Tukey's Multiple Comparison Test	Mean Diff,	q	Significant? P < 0,05?	Summary
Tanpa Kerang vs A (5 Kerang)	0,0110	13,47	Yes	***
Tanpa Kerang vs B (10 Kerang)	0,0150	18,37	Yes	***
Tanpa Kerang vs C (15 Kerang)	0,0160	19,60	Yes	***
A (5 Kerang) vs B (10 Kerang)	0,0040	4,899	Yes	*
A (5 Kerang) vs C (15 Kerang)	0,005000	6,124	Yes	*
B (10 Kerang) vs C (15 Kerang)	0,001000	1,225	No	ns



**Tabel 7.** Uji normalitas data kapasitas absorpsi terhadap kadar amoniak (NH<sub>3</sub>)

KS normality test	
KS distance	0,2056
P value	> 0,10
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
D'Agostino & Pearson omnibus normality test	
K2	5,245
P value	0,0726
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Shapiro-Wilk normality test	
W	0,8713
P value	0,0678
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Sum	624,0

**Tabel 8.** Uji *one way ANOVA* data kapasitas absorpsi terhadap kadar amoniak (NH<sub>3</sub>)

One-way analysis of variance			
P value	0,9415		
P value summary	ns		
Are means signif. different? (P < 0.05)	No		
Number of groups	4		
F	0,1268		
R square	0,04540		
ANOVA Table	SS	df	MS
Treatment (between columns)	359,6	3	119,9
Residual (within columns)	7561	8	945,1
Total	7921	11	



**Tabel 9.** Uji normalitas data persentase absorpsi terhadap kadar amoniak (NH<sub>3</sub>)

KS normality test	
KS distance	0,2583
P value	0,0850
Passed normality test (alpha=0.05)?	Yes
P value summary	Ns
D'Agostino & Pearson omnibus normality test	
K2	3,282
P value	0,1938
Passed normality test (alpha=0.05)?	Yes
P value summary	Ns
Shapiro-Wilk normality test	
W	0,7916
P value	0,0164
Passed normality test (alpha=0.05)?	No
P value summary	*
Sum	527,6

**Tabel 10.** Uji *one way ANOVA* data persentase absorpsi terhadap kadar amoniak (NH<sub>3</sub>)

One-way analysis of variance			
P value	0,9983		
P value summary	ns		
Are means signif. different? (P < 0.05)	No		
Number of groups	3		
F	0,001665		
R square	0,0005547		
ANOVA Table	SS	df	MS
Treatment (between columns)	9,836	2	4,918
Residual (within columns)	17723	6	2954
Total	17733	8	





**Tabel 11.** Uji normalitas data kapasitas absorpsi terhadap kadar hidrogen sulfida (H<sub>2</sub>S)

KS normality test	
KS distance	0,2158
P value	> 0,10
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
D'Agostino & Pearson omnibus normality test	
K2	1,413
P value	0,4934
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Shapiro-Wilk normality test	
W	0,8964
P value	0,2320
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Sum	562,5

**Tabel 12.** Uji *one way ANOVA* data kapasitas absorpsi terhadap kadar hidrogen sulfida (H<sub>2</sub>S)

One-way analysis of variance			
P value	< 0,0001		
P value summary	***		
Are means signif. different? (P < 0.05)	Yes		
Number of groups	4		
F	167,9		
R square	0,9844		
ANOVA Table	SS	df	MS
Treatment (between columns)	1152	3	384,1
Residual (within columns)	18,31	8	2,288
Total	1171	11	

**Tabel 13.** Uji *Tukey's Multiple Comparison Test*

Tukey's Multiple Comparison Test	Mean Diff,	q	Significant? P < 0,05?	Summary
Tanpa Kerang vs A (5 Kerang)	-17,33	19,84	Yes	***
Tanpa Kerang vs B (10 Kerang)	-22,36	25,61	Yes	***
Tanpa Kerang vs C (15 Kerang)	-25,28	28,95	Yes	***
A (5 Kerang) vs B (10 Kerang)	-5,033	5,763	Yes	*
A (5 Kerang) vs C (15 Kerang)	-7,950	9,103	Yes	***
B (10 Kerang) vs C (15 Kerang)	-2,917	3,340	No	ns



**Tabel 14.** Uji normalitas data persentase absorpsi terhadap kadar hidrogen sulfida (H<sub>2</sub>S)

KS normality test	
KS distance	0,2157
P value	> 0,10
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
D'Agostino & Pearson omnibus normality test	
K2	1,415
P value	0,4930
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Shapiro-Wilk normality test	
W	0,8964
P value	0,2318
Passed normality test (alpha=0.05)?	Yes
P value summary	ns
Sum	562,5

**Tabel 15.** Uji *one way ANOVA* data persentase absorpsi terhadap kadar hidrogen sulfida (H<sub>2</sub>S)

One-way analysis of variance			
P value	0,0210		
P value summary	*		
Are means signif. different? (P < 0.05)	Yes		
Number of groups	3		
F	7,877		
R square	0,7242		
ANOVA Table	SS	df	MS
Treatment (between columns)	867,9	2	433,9
Residual (within columns)	330,5	6	55,09
Total	1198	8	

**Tabel 16.** Uji *Tukey's Multiple Comparison Test*

Tukey's Multiple Comparison Test	Mean Diff,	q	Significant? P < 0,05?	Summary
Tanpa Kerang vs A (5 Kerang)	-50,00	13,47	Yes	***
Tanpa Kerang vs B (10 Kerang)	-68,18	18,37	Yes	***
Tanpa Kerang vs C (15 Kerang)	-72,73	19,60	Yes	***
A (5 Kerang) vs B (10 Kerang)	-18,18	4,899	Yes	*
A (5 Kerang) vs C (15 Kerang)	-22,73	6,125	Yes	*
B (10 Kerang) vs C (15 Kerang)	-4,550	1,226	No	ns



**Tabel 17.** Data Morfometrik Kerang Hijau (*Perna viridis*)

No	Panjang (P)	Perlakuan	BERAT BASAH		
			Berat Total (BT)	Berat Daging (BD)	Berat Cangkang (BC)
1	4,40	A1	5,62	1,36	4,26
2	3,50		2,22	0,62	1,60
3	3,90		3,22	1,04	2,18
4	3,20		2,36	0,63	1,73
5	3,30		2,22	0,62	1,60
6	3,50	A2	2,27	0,48	1,79
7	3,10		2,04	0,52	1,52
8	3,20		2,82	0,65	2,17
9	4,10		3,48	0,80	2,68
10	3,40		3,27	0,64	2,63
11	4,00	A3	3,24	1,19	2,05
12	4,10		4,40	1,11	3,29
13	3,80		3,19	0,88	2,31
14	4,40		4,39	1,09	3,30
15	3,50		2,92	0,56	2,36
16	3,90	B1	2,99	0,75	2,24
17	4,10		3,40	0,80	2,60
18	3,30		3,02	0,60	2,42
19	4,30		4,35	0,92	3,43
20	2,90		1,66	0,48	1,18
21	3,90		4,40	1,30	3,10
22	3,20		1,84	0,49	1,35
23	3,70		2,91	0,43	2,48
24	4,20		3,84	1,04	2,80
25	2,90		1,76	0,36	1,40
26	3,90	B2	3,95	1,07	2,88
27	3,80		3,16	0,54	2,62
28	3,60		3,26	0,68	2,58
29	4,00		4,03	1,42	2,61
30	3,10		3,43	0,67	2,76
31	3,40		2,61	0,71	1,90
32	3,80		2,99	0,75	2,24
33	3,50		3,22	1,04	2,18
34	4,10		4,84	1,28	3,56
35	3,90		3,99	1,09	2,90
36	4,20	B3	4,55	1,17	3,38
37	4,20		4,32	1,29	3,03
38	3,30		1,93	0,47	1,46
39	3,60		2,57	0,61	1,96
40	4,00		3,24	1,19	2,05
41	4,10		4,40	1,11	3,29
42	3,80		3,19	0,88	2,31
43	4,40		4,39	1,09	3,30



44	3,50		2,92	0,56	2,36
45	3,90		2,99	0,75	2,24
46	4,10	C1	3,40	0,80	2,60
47	3,30		3,02	0,60	2,42
48	4,30		4,35	0,92	3,43
49	2,90		1,66	0,48	1,18
50	3,10		3,43	0,67	2,76
51	3,40		2,61	0,71	1,90
52	3,80		2,99	0,75	2,24
53	3,50		3,22	1,04	2,18
54	4,10		4,84	1,28	3,56
55	3,90		3,99	1,09	2,90
56	4,20		4,55	1,17	3,38
57	4,20		4,32	1,29	3,03
58	3,30		1,93	0,47	1,46
59	3,60		2,57	0,61	1,96
60	4,40		5,62	1,36	4,26
61	3,50	C2	2,22	0,62	1,60
62	3,90		3,22	1,04	2,18
63	3,20		2,36	0,63	1,73
64	3,30		2,22	0,62	1,60
65	3,50		2,27	0,48	1,79
66	3,10		2,04	0,52	1,52
67	3,20		2,82	0,65	2,17
68	4,10		3,48	0,80	2,68
69	3,40		3,27	0,64	2,63
70	3,90		4,40	1,30	3,10
71	3,50		2,92	0,56	2,36
72	3,90		2,99	0,75	2,24
73	4,10		3,40	0,80	2,60
74	3,30		3,02	0,60	2,42
75	4,30		4,35	0,92	3,43
76	2,90	C3	1,66	0,48	1,18
77	3,90		4,40	1,30	3,10
78	3,20		1,84	0,49	1,35
79	3,70		2,91	0,43	2,48
80	4,20		3,84	1,04	2,80
81	2,90		1,76	0,36	1,40
82	4,10		3,40	0,80	2,60
83	3,30		3,02	0,60	2,42
84	4,30		4,35	0,92	3,43
	90		1,66	0,48	1,18
	10		3,43	0,67	2,76
	40		2,61	0,71	1,90
	80		2,99	0,75	2,24
	50		3,22	1,04	2,18



