

DAFTAR PUSTAKA

- Achmad, Rukaesih (2004). *Kimia Lingkungan*. Yogyakarta : C.V ANDI OFFSET
- Ahn, Y. H. (2006). Sustainable nitrogen elimination biotechnologies: A review. *Process Biochemistry*, 41(8), 1709–1721. <https://doi.org/10.1016/j.procbio.2006.03.033>
- Akbar, M. R. (2022). *Kinerja Penyisihan Nitrogen Dengan Bakteri Candidatus Brocadia Fulgida Menggunakan Membrane Bioreactor (MBR) Pada Hydraulic Retention Time (HRT) 12 Jam. Skripsi. Padang : Universitas Andalas.*
- Ali, M., Chai, L. Y., Tang, C. J., Zheng, P., Min, X. B., Yang, Z. H., Xiong, L., & Song, Y. X. (2013). The increasing interest of ANAMMOX research in China: Bacteria, process development, and application. *BioMed Research International*, 2013. <https://doi.org/10.1155/2013/134914>
- Amanda, T. A. (2022). *Kinerja Penyisihan Nitrogen Dengan Bakteri Anammox Dari Telaga Koto Baru Menggunakan Membrane Bioreactor (MBR). Skripsi. Padang : Universitas Andalas*
- Anthonisen, A. C. (1976). *Inhibition of nitrification and nitrous acid compounds*. Journal (Water Pollution Control Federation), Vol. 48, No. 5, PP. 835–852.
- Barnard, R., Leadley, P. W., & Hungate, B. A. (2005). *Global change , nitrification , and denitrification : A review*. 19, 1–13. <https://doi.org/10.1029/2004GB002282>
- Chamchoi, N., Nitisoravut, S., & Schmidt, J. E. (2008). Inactivation of ANAMMOX communities under concurrent operation of anaerobic ammonium oxidation (ANAMMOX) and denitrification. *Bioresource Technology*, 99(9), 3331–3336. <https://doi.org/10.1016/j.biortech.2007.08.029>
- Chen, J., Ji, Q., Zheng, P., Chen, T., Wang, C., & Mahmood, Q. (2010). Floatation and control of granular sludge in a high-rate anammox reactor. *Water Research*, 44(11), 3321–3328. <https://doi.org/10.1016/j.watres.2010.03.016>

- Cicerone, R. J. •. (1989). .Analysis of Sources and Sinks of Atmospheric Nitrous Oxide (NO). *Journal of Geophysical Research*, 94(D15), 265–283.
- Cunningham, W.P. (2001). *Environmental Science : A Global Concern*. Sixth. New York : Mc Graw Hill Companies.
- Dapena-Mora, A., Campos, J. L., Mosquera-Corral, A., Jetten, M. S. M., & Méndez, R. (2004). Stability of the ANAMMOX process in a gas-lift reactor and a SBR. *Journal of Biotechnology*, 110(2), 159–170. <https://doi.org/10.1016/j.jbiotec.2004.02.005>
- Egli, K., Fanger, U., Alvarez, P. J. J., Siegrist, H., Meer, J. R. Van Der, & Zehnder, A. J. B. (2001). *Enrichment and characterization of an anammox bacterium from a rotating biological contactor treating ammonium-rich leachate*. 198–207. <https://doi.org/10.1007/s002030100255>
- Erkekoglu, P., Sipahi, H., & Baydar, T. (2009). Evaluation of nitrite in ready-made soups. *Food Analytical Methods*, 2(1), 61–65. <https://doi.org/10.1007/s12161-008-9045-0>
- Fernández, I., Dosta, J., Fajardo, C., Campos, J. L., Mosquera-corral, A., & Méndez, R. (2012). Short- and long-term effects of ammonium and nitrite on the Anammox process. *Journal of Environmental Management*, 95, S170–S174. <https://doi.org/10.1016/j.jenvman.2010.10.044>
- Gonzalez-Martinez, A., Osorio, F., Rodriguez-Sanchez, A., Martinez-Toledo, M. V., Gonzalez-Lopez, J., Lotti, T., & van Loosdrecht, M. C. M. (2015). Bacterial community structure of a lab-scale anammox membrane bioreactor. *Biotechnology Progress*, 31(1), 186–193. <https://doi.org/10.1002/btpr.1995>
- Güven, D., Dapena, A., Kartal, B., Schmid, M. C., Maas, B., Van De Pas-Schoonen, K., Sozen, S., Mendez, R., Op Den Camp, H. J. M., Jetten, M. S. M., Strous, M., & Schmidt, I. (2005). Propionate oxidation by and methanol inhibition of anaerobic ammonium-oxidizing bacteria. *Applied and Environmental*

- Microbiology*, 71(2), 1066–1071. <https://doi.org/10.1128/AEM.71.2.1066-1071.2005>
- Hernaningsih, T. (2014). Aplikasi Membrane Bioreactor (Mbr) Untuk Proses Daur Ulang Air Limbah. *Jurnal Air Indonesia*, 7(2). <https://doi.org/10.29122/jai.v7i2.2410>
- Hou, J., Xia, L., Ma, T., Zhang, Y., Zhou, Y., & He, X. (2017). Bioresource Technology Achieving short-cut nitrification and denitrification in modified intermittently aerated constructed wetland. *Bioresource Technology*, 232(3), 10–17. <https://doi.org/10.1016/j.biortech.2017.02.027>
- Howarth, R. W. (2008). Coastal nitrogen pollution: A review of sources and trends globally and regionally. *Harmful Algae*, 8(1), 14–20. <https://doi.org/10.1016/j.hal.2008.08.015>
- Jamaludin, N., Sham, S. M., & Ismail, S. N. S. (2013). Health risk assessment of nitrate exposure in well water of residents in intensive agriculture area. *American Journal of Applied Sciences*, 10(5), 442–448. <https://doi.org/10.3844/ajassp.2013.442.448>
- Kang, J., & Wang, J. L. (2006). Influence of chemical oxygen demand concentrations on anaerobic ammonium oxidation by granular sludge from EGSB reactor. *Biomedical and Environmental Sciences*, 19(3), 192–196.
- L.G.J.M. Van Dongen, M. S. M. J. and M. C. M. van L. (2001). *Combined Sharon / Anammox Process. een duurzame methode voor N-verwijdering uit slibgistingwater*. ISBN 90 5773 104 5.
- Liu, Y., Ngo, H. H., Guo, W., Peng, L., Wang, D., & Ni, B. (2019). The roles of free ammonia (FA) in biological wastewater treatment processes: A review. *Environment International*, 123(November 2018), 10–19. <https://doi.org/10.1016/j.envint.2018.11.039>
- Lotti, T., Kleerebezem, R., & Loosdrecht, M. C. M. Van. (2015). *Effect of Temperature Change on Anammox Activity*. 112(1), 98–103. <https://doi.org/10.1002/bit.25333>

- Lotti, T., Kleerebezem, R., Hu, Z., Kartal, B., & Loosdrecht, V. (2014). Simultaneous partial nitrification and anammox at low temperature with granular sludge, *Water Research* (2014),. <https://doi.org/10.1016/j.watres.2014.07.047>
- Lotti, T., Kleerebezem, R., Lubello, C., & Loosdrecht, M. C. M. Van. (2014). ScienceDirect Physiological and kinetic characterization of a suspended cell anammox culture. *Water Research*, 60, 1–14. <https://doi.org/10.1016/j.watres.2014.04.017>
- Lu, H. F., Zheng, P., Ji, Q. X., Zhang, H. T., Ji, J. Y., Wang, L., Ding, S., Chen, T. T., Zhang, J. Q., Tang, C. J., & Chen, J. W. (2012). The structure, density and settlability of anammox granular sludge in high-rate reactors. *Bioresource Technology*, 123, 312–317. <https://doi.org/10.1016/j.biortech.2012.07.003>
- Maknun, Djohar. (2017). *Ekologi : Populasi, Komunitas, Ekosistem Mewujudkan Kampus Hijau Asri, Islami dan Ilmiah*. Cirebon : Nurjati Press.
- M. Jetten, Markus Schmid, Katinka Van De Pas-Schoonen, Jaap Sinninghe Damste, M. S. (2005). [3] Anammox Organisms : Enrichment , Cultivation , and Environmental Analysis. 397, 92–102. [https://doi.org/10.1016/S0076-6879\(05\)97003-1](https://doi.org/10.1016/S0076-6879(05)97003-1)
- M. Strous , J. J. Heijnen, J. G. Kuenen Jetten, M. S. M. (1998). *The sequencing batch reactor as a powerful tool for the study of slowly growing anaerobic ammonium-oxidizing microorganisms*. 589–596.
- Ma, B., Wang, S., Cao, S., Miao, Y., Jia, F., Du, R., & Peng, Y. (2016). Bioresource Technology Biological nitrogen removal from sewage via anammox : Recent advances. *Bioresource Technology*, 200, 981–990. <https://doi.org/10.1016/j.biortech.2015.10.074>
- Ng, H. Y., Tan, T. W., & Ong, S. L. (2006). Membrane fouling of submerged membrane bioreactors: Impact of mean cell residence time and the contributing factors. *Environmental Science and Technology*, 40(8), 2706–2713.

<https://doi.org/10.1021/es0516155>

- Oshiki, M., Shimokawa, M., Fujii, N., Satoh, H., & Okabe, S. (2011). *Physiological characteristics of the anaerobic ammonium-oxidizing bacterium ' Candidatus Brocadia sinica . '* 1706–1713. <https://doi.org/10.1099/mic.0.048595-0>
- Piñar, G., Duque, E., Haïdour, A., Oliva, J. M., Sánchez-Barbero, L., Calvo, V., & Ramos, J. L. (1997). Removal of high concentrations of nitrate from industrial wastewaters by bacteria. *Applied and Environmental Microbiology*, 63(5), 2071–2073. <https://doi.org/10.1128/aem.63.5.2071-2073.1997>
- Pratiwi, N. I., Huwaida, A., Indah, S., & Helard, D. (2019). Adsorption and Regeneration of Sungai Pasak Pumice As an Adsorbent for Ammonium Removal in Water. *Jurnal Riset Teknologi Pencegahan Pencemaran Industri*, 10(1), 38–46. <https://doi.org/10.21771/jrtppi.2019.v10.no1.p38-46>
- Prayitno, dan M. Sholeh. (2014). Pengurangan Nitrogen Pada Limbah Cair Terolah Sistem Wetland Buatan. Vol 30. No 2 : 79–86.
- Putra, R. P. (2020). Start-Up Proses Anammox Dengan Lumpur Telaga Koto Baru Sumatera Barat Sebagai Inokulum Pada Filter Bioreactor (FtBR). Tesis. Padang :Universitas Andalas.
- Puyol, D., Garcia, B., & Field, J. A. (2013). Bioresource Technology Kinetic characterization of *Brocadia* spp . -dominated anammox cultures. *Bioresource Technology*, 139, 94–100. <https://doi.org/10.1016/j.biortech.2013.04.001>
- Qian, G., Wang, J., Kan, J., Zhang, X., Xia, Z., Zhang, X., Miao, Y., & Sun, J. (2018). Diversity and distribution of anammox bacteria in water column and sediments of the Eastern Indian Ocean. *International Biodeterioration and Biodegradation*, 133(April), 52–62. <https://doi.org/10.1016/j.ibiod.2018.05.015>
- Ridha, M., & Darminto, D. (2016). Analisis Densitas, Porositas, dan Struktur Mikro Batu Apung Lombok dengan Variasi Lokasi dan Kedalaman. *Jurnal Fisika Dan Aplikasinya*, 12(3), 124–130. <https://doi.org/10.12962/j24604682.v12i3.1403>

- Sari, C. M. (2016). Studi Kemampuan Batu Apung Sungai Pasak, Pariaman Sebagai Adsorben Dalam Penyisihan Nitrat Dari Air Tanah. Skripsi. Padang : Universitas Andalas.
- Shapleigh, J. P. (2006). The Denitrifying Prokaryotes. *The Prokaryotes*, 769–792. https://doi.org/10.1007/0-387-30742-7_23
- Star, W. R. L. Van Der, Miclea, A. I., Dongen, U. G. J. M. Van, Muyzer, G., Picioreanu, C., & Loosdrecht, M. C. M. Van. (2008). *The Membrane Bioreactor : A Novel Tool to Grow Anammox Bacteria as Free Cells*. 101(2), 286–294. <https://doi.org/10.1002/bit.21891>
- Tang, C. J., Zheng, P., Mahmood, Q., & Chen, J. W. (2009). Start-up and inhibition analysis of the Anammox process seeded with anaerobic granular sludge. *Journal of Industrial Microbiology and Biotechnology*, 36(8), 1093–1100. <https://doi.org/10.1007/s10295-009-0593-0>
- Tang, C., Zheng, P., Hu, B., Chen, J., & Wang, C. (2010). Influence of substrates on nitrogen removal performance and microbiology of anaerobic ammonium oxidation by operating two UASB reactors fed with different substrate levels. *Journal of Hazardous Materials*, 181(1–3), 19–26. <https://doi.org/10.1016/j.jhazmat.2010.04.015>
- Trigo, C., Campos, J. L., Garrido, J. M., & Méndez, R. (2006). Start-up of the Anammox process in a membrane bioreactor. *Journal of Biotechnology*, 126(4), 475–487. <https://doi.org/10.1016/j.jbiotec.2006.05.008>
- Van De Graaf, A. A., De Bruijn, P., Robertson, L. A., Jetten, M. S. M., & Gijs Kuenen, J. (1996). Autotrophic growth of anaerobic ammonium-oxidizing micro-organism in a fluidized bed reactor. *Microbiology*, 142(1 996), 187–189.
- Waki, M. (2007). Nitrogen removal from animal waste treatment water by anammox enrichment. 98(2), 2775–2780. <https://doi.org/10.1016/j.biortech.2006.09.031>
- Wang, T., Zhang, H., Yang, F., Li, Y., & Zhang, G. (2013). Start-up and long-term

operation of the Anammox process in a fixed bed reactor (FBR) filled with novel non-woven ring carriers. *Chemosphere*, 91(5), 669–675. <https://doi.org/10.1016/j.chemosphere.2013.01.026>

Wei, Y., Ren, B., Zheng, S., Feng, X., He, Y., Zhu, X., & Zhou, L. (2021). Effect of high concentration of ammonium on production of n -caproate : Recovery of a high-value biochemical from food waste via lactate-driven chain elongation. *Waste Management*, 128, 25–35. <https://doi.org/10.1016/j.wasman.2021.04.015>

Wilkinson, C., & Salvat, B. (2012). Coastal resource degradation in the tropics : Does the tragedy of the commons apply for coral reefs , mangrove forests and seagrass beds. *Marine Pollution Bulletin*, 64(6), 1096–1105. <https://doi.org/10.1016/j.marpolbul.2012.01.041>

Zhou, Y., Ganda, L., Lim, M., Yuan, Z., Kjelleberg, S., & Ng, W. J. (2010). Free nitrous acid (FNA) inhibition on denitrifying poly-phosphate accumulating organisms (DPAOs). *Applied Microbiology and Biotechnology*, 88(1), 359–369. <https://doi.org/10.1007/s00253-010-2780-3>

Zulfa, M. (2020). Penyisihan Nitrogen dengan Proses Anammox Pada Reaktor Up-Flow Anaerobic Sludge Blanket (UASB) Memanfaatkan Batu Apung Sebagai Media Lekat. Skripsi. Padang : Universitas Andalas.

Zulkarnaini, Z., Afrianita, R., & Putra, I. H. (2020). Aplikasi Proses Anammox Dalam Penyisihan Nitrogen Menggunakan Reaktor Up-Flow Anaerobic Sludge Blanket. *Jurnal Teknologi Lingkungan*, 21(1), 31–39. <https://doi.org/10.29122/jtl.v21i1.3725>

Zulkarnaini. (2021). Teknik Kultivasi dan Identifikasi Bakteri Anammox Teknik Kultivasi dan Identifikasi Bakteri Anammox. Padang : LPPM Universitas Andalas.