DAFTAR PUSTAKA

Apriliani, A. (2010). Pemanfaatan Arang Ampas Tebu sebagai Adsorben Ion Logam Cd, Cr, Cu dan Pb dalam Air Limbah. *Repositoy UIN*, 1–91.

Bernhard, A. (2010). The nitrogen cycle: processes. *Nature Education Knowledge*, *2*(2), 1–8. https://www.nature.com/scitable/knowledge/library/the-nitrogen-cycle-processes-players-and-human-15644632/.

Cechinel, M. A. P., Ulson De Souza, S. M. A. G., & Ulson De Souza, A. A. (2014). Study of lead (II) adsorption onto activated carbon originating from cow bone. *Journal of Cleaner Production*, *65*, 342–349. https://doi.org/10.1016/j.jclepro.2013.08.020

Cengeloglu, Y., Tor, A., Ersoz, M., & Arslan, G. (2006). *Removal of nitrate from aqueous solution by using red mud*. *51*, 374–378. https://doi.org/10.1016/j.seppur.2006.02.020

Chen, B., Chen, Z., & Lv, S. (2011). A novel magnetic biochar efficiently sorbs organic pollutants and phosphate. *Bioresource Technology*, *102*(2), 716–723. https://doi.org/10.1016/j.biortech.2010.08.067

Dąbrowski, A. (2001). Adsorption - From theory to practice. *Advances in Colloid and Interface Science*, *93*(1–3), 135–224. https://doi.org/10.1016/S0001-8686(00)00082-8

Divband Hafshejani, L., Hooshmand, A., Naseri, A. A., Mohammadi, A. S., Abbasi, F., & Bhatnagar, A. (2016). Removal of nitrate from aqueous solution by modified sugarcane bagasse biochar. *Ecological Engineering*, *95*, 101–111. https://doi.org/10.1016/j.ecoleng.2016.06.035

Fatikhah, A. (2019). *Estimasi Beban Pencemar Nitrogen Berdasarkan Pola Penggunaan Pupuk Pada Lahan Pertanian di Kecamatan Pakem, Yogyakarta*. Universitas Islam Indonesia.

Gai, X., Wang, H., Liu, J., Zhai, L., Liu, S., Ren, T., & Liu, H. (2014). Effects of feedstock and pyrolysis temperature on biochar adsorption of ammonium and nitrate. *PLoS ONE*, *9*(12), 1–19. https://doi.org/10.1371/journal.pone.0113888

Gao, F., Xue, Y., Deng, P., Cheng, X., & Yang, K. (2015). Removal of aqueous ammonium by biochars derived from agricultural residuals at different pyrolysis temperatures. *Chemical Speciation and Bioavailability*, *27*(2), 92–97. https://doi.org/10.1080/09542299.2015.1087162

Hamuna, B., Tanjung, R. H. R., Suwito, S., & Maury, H. K. (2018). Konsentrasi Amoniak, Nitrat Dan Fosfat Di Perairan Distrik Depapre, Kabupaten Jayapura. *EnviroScienteae*, *14*(1), 8. https://doi.org/10.20527/es.v14i1.4887

Hu, X., Zhang, X., Ngo, H. H., Guo, W., Wen, H., Li, C., Zhang, Y., & Ma, C.

(2020). Comparison study on the ammonium adsorption of the biochars derived from different kinds of fruit peel. *Science of the Total Environment*, *707*, 135544. https://doi.org/10.1016/j.scitotenv.2019.135544

Iftekhar, S., Ramasamy, D. L., Srivastava, V., Asif, M. B., & Sillanpää, M. (2018). Understanding the factors affecting the adsorption of Lanthanum using different adsorbents: A critical review. *Chemosphere*, *204*, 413–430. https://doi.org/10.1016/j.chemosphere.2018.04.053

Jindo, K., Mizumoto, H., Sawada, Y., & Sonoki, T. (2014). Physical and chemical characterizations of biochars derived from different agricultural residues. *Biogeosciences Discussions*, *11*(8), 11727–11746. https://doi.org/10.5194/bgd-11-11727-2014

Jung, K. . (2015). *Kinetic study on phosphate removal from aqueous solution by biochar derived from peanut shell as renewable adsorptive media*. https://doi.org/10.1007/s13762-015-0766-5

Karimi, K., Kheradmandinia, S., & Taherzadeh, M. J. (2006). Conversion of rice straw to sugars by dilute-acid hydrolysis. *Biomass and Bioenergy*, *30*(3), 247–253. https://doi.org/10.1016/j.biombioe.2005.11.015

Katal, R., Sharifzadeh, M., Taher, H., & Esfandian, H. (2012). Journal of Industrial and Engineering Chemistry Kinetic , isotherm and thermodynamic study of nitrate adsorption from aqueous solution using modified rice husk. *Journal of Industrial and Engineering Chemistry*, *18*(1), 295–302. https://doi.org/10.1016/j.jiec.2011.11.035

Legowo, S. (2017). Pertumbuhan Kultur Tunggal Dan Campur Jamur Pelapuk Putih (Phanerochaete chrysosporium dan Trametes versicolor) Pada Proses Biodelignifikasi Jerami Padi. In *Universitas Muhammadiyah Surakarta* (Vol. 4).

Lin, L., Lei, Z., Wang, L., Liu, X., Zhang, Y., Wan, C., Lee, D., & Tay, J. H. (2013). Adsorption mechanisms of high-levels of ammonium onto natural and NaCl-modified zeolites. *SEPARATION AND PURIFICATION TECHNOLOGY*, *103*, 15–20. https://doi.org/10.1016/j.seppur.2012.10.005

Ma, Z., Li, Q., Yue, Q., Gao, B., Li, W., Xu, X., & Zhong, Q. (2011). Adsorption removal of ammonium and phosphate from water by fertilizer controlled release agent prepared from wheat straw. *Chemical Engineering Journal*, *171*(3), 1209–1217. https://doi.org/10.1016/j.cej.2011.05.027

Marañón, E., Ulmanu, M., Fernández, Y., Anger, I., & Castrillón, L. (2006). Removal of ammonium from aqueous solutions with volcanic tuff. *Journal of Hazardous Materials*, *137*(3), 1402–1409. https://doi.org/10.1016/j.jhazmat.2006.03.069

Metcalf & Eddy. (2003). Wastewater Engineering: Treatment and Reuse (Book). In *Chemical engineering* (Nomor 7, hal. 10–11).

Minamisawa, M., Minamisawa, H., Yoshida, S., & Takai, N. (2004). Adsorption behavior of heavy metals on biomaterials. *Journal of Agricultural and Food Chemistry*, *52*(Ii), 5606–5611.

Mustofa, A. (2015). Kandungan nitrat dan pospat sebagai faktor tingkat kesuburan perairan pantai. *Disprotek*, *6*(1), 13–19.

Omidire, N., Shange, R., Khan, V., Bean, R., & Bean, J. (2015). Assessing the Impacts of Inorganic and Organic Fertilizer on Crop Performance Under a Microirrigation-Plastic Mulch Regime. *Professional Agricultural Workers Journal*, *3*(1), 6. https://doi.org/10.3390/su13063150

Ozturk, N. (2004). *Nitrate removal from aqueous solution by adsorption onto various materials*. *112*, 155–162. https://doi.org/10.1016/j.jhazmat.2004.05.001

Pane, F. A. (2019). *Studi pengolahan air limbah tahu secara anaerob dengan media bioball dan fitoremediasi oleh tanaman kiambang (salvinia molesta) dalam penurunan COD dan TSS*. 12–61.

Pemerintah, P. (2021). Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 Tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup. *Sekretariat Negara Republik Indonesia*, *1*(078487A), 483. http://www.jdih.setjen.kemendagri.go.id/

Purmaningtyas, S. E. (2014). Distribusi Konsentrsai Oksigen, Nitrogen dan Fosfat di Waduk Saguling, Jawa Barat. *Limnotek*, *21*(2), 125–134.

Putri, V. I. (2017). Pemberian Beberapa Jenis Biochar Untuk Memperbaiki Sifat Kimia Tanah Ultisol Dan Pertumbuhan Tanaman Jagung. *Agroekoteknologi*, *5*(4), 824–828. https://doi.org/10.32734/jaet.v5i4.16435

Salim, H. (2002). Beban Pencemaran Limbah Domestik dan Pertanian di DAS Citarum Hulu. *Jurnal Teknologi Lingkungan*, *3*(2), 107–111. http://www.kelair.bppt.go.id/Jtl/2002/vol3-2/04cemar.pdf

Saragih, S. . (2008). *Pembuatan dan Karekterisasi Karbon Aktif dari Batubara Riau sebagai Adsorben*. Universitas Indonesia.

Setiowati, Roto, & Wahyuni, E. T. (2016). Monitoring Kadar Nitrit Dan Nitrat Pada Air Sumur Di Daerah Catur Tunggal Yogyakarta Dengan Metode Spektrofotometri Uv-Vis. *Jurnal Manusia dan Lingkungan*, *23*(2), 143–148.

Singh, N. B., Nagpal, G., Agrawal, S., & Rachna. (2018). Water purification by using Adsorbents: A Review. *Environmental Technology and Innovation*, *11*, 187–240. https://doi.org/10.1016/j.eti.2018.05.006

Timnie R, P. (2018). *Pemanfaatan kulit durian sebagai adsorben untuk penyisihan detergen dan fosfat dalam pengolahan limbah cair laundry*.

Triyono, A., Purwanto, & Budiyono. (2013). Efisiensi Penggunaan Pupuk – N untuk Pengurangan Kehilangan Nitrat pada Lahan Pertanian. *Prosiding Seminar Nasional Pengelolaan Sumber Daya Alam dan Lingkungan*, *1*, 526–531.

Uchimiya, M., Chang, S. C., & Klasson, K. T. (2011). Screening biochars for heavy metal retention in soil: Role of oxygen functional groups. *Journal of Hazardous Materials*, *190*(1–3), 432–441. https://doi.org/10.1016/j.jhazmat.2011.03.063

Wan, S., Wang, S., Li, Y., & Gao, B. (2016). Functionalizing biochar with Mg–Al and Mg–Fe layered double hydroxides for removal of phosphate from aqueous solutions. *Journal of Industrial and Engineering Chemistry*, *47*, 246–253. https://doi.org/10.1016/j.jiec.2016.11.039

Wang, B., Lehmann, J., Hanley, K., Hestrin, R., & Enders, A. (2015). Adsorption and desorption of ammonium by maple wood biochar as a function of oxidation and pH. *Chemosphere*, *138*, 120–126. https://doi.org/10.1016/j.chemosphere.2015.05.062

Wang, Z., Guo, H., Shen, F., Yang, G., Zhang, Y., Zeng, Y., Wang, L., Xiao, H., & Deng, S. (2015). Chemosphere Biochar produced from oak sawdust by Lanthanum (La) -involved pyrolysis for adsorption of ammonium (NH + 4), nitrate (NO 3), and. *Chemosphere*, *119*, 646–653. https://doi.org/10.1016/j.chemosphere.2014.07.084

Warlina, L. (2004). *Pencemaran Air :* 1–26.

Wei, D., Li, B., Huang, H., Luo, L., Zhang, J., Yang, Y., Guo, J., Tang, L., Zeng, G., & Zhou, Y. (2018). Biochar-based functional materials in the purification of agricultural wastewater: Fabrication, application and future research needs. *Chemosphere*, *197*, 165–180. https://doi.org/10.1016/j.chemosphere.2017.12.193

Widwiastuti, H., Bisri, C., & Rumhayati, B. (2019). *Pengaruh Massa Adsorben dan Waktu Kontak terhadap Adsorpsi Fosfat menggunakan Kitin Hasil Isolasi dari Cangkang Udang*. 93–98.

Xiang, W., Zhang, X., Chen, J., Zou, W., He, F., Hu, X., Tsang, D. C. W., Ok, Y. S., & Gao, B. (2020). Biochar technology in wastewater treatment: A critical review. *Chemosphere*, *252*, 126539. https://doi.org/10.1016/j.chemosphere.2020.126539

Xu, K., Lin, F., Dou, X., Zheng, M., Tan, W., & Wang, C. (2018). Wood waste Mixing. *Journal of Cleaner Production*. https://doi.org/10.1016/j.jclepro.2018.03.206

Xue, L., Gao, B., Wan, Y., Fang, J., Wang, S., Li, Y., Muñoz-carpena, R., & Yang, L. (2016). High efficiency and selectivity of MgFe-LDH modified wheat-straw biochar in the removal of nitrate from aqueous solutions. *Journal of the*

Taiwan Institute of Chemical Engineers, *0*, 1–6. https://doi.org/10.1016/j.jtice.2016.03.021

Yakout, S. M., Daifullah, A. E. H. M., & El-Reefy, S. A. (2015). Pore Structure Characterization of Chemically Modified Biochar Derived From Rice Straw. *Environmental Engineering and Management Journal*, *14*(2), 473–480. https://doi.org/10.30638/eemj.2015.049

Yang, H. I., Lou, K., Rajapaksha, A. U., Ok, Y. S., Anyia, A. O., & Chang, S. X. (2017). Adsorption of ammonium in aqueous solutions by pine sawdust and wheat straw biochars. *Environmental Science and Pollution Research*, *25*(26), 25638–25647. https://doi.org/10.1007/s11356-017-8551-2

Yang, L., Yang, M., Xu, P., Zhao, X., Bai, H., & Li, H. (2017). Characteristics of nitrate removal from aqueous solution by modified steel slag. *Water (Switzerland)*, *9*(10). https://doi.org/10.3390/w9100757

Yin, Q., Ren, H., Wang, R., & Zhao, Z. (2018). Evaluation of nitrate and phosphate adsorption on Al-modified biochar: Influence of Al content. *Science of the Total Environment*, *631–632*, 895–903. https://doi.org/10.1016/j.scitotenv.2018.03.091

Zhang, M., Gao, B., Yao, Y., Xue, Y., & Inyang, M. (2012). Synthesis of porous MgO-biochar nanocomposites for removal of phosphate and nitrate from aqueous solutions. *Chemical Engineering Journal*, *210*, 26–32. https://doi.org/10.1016/j.cej.2012.08.052

Zhang, Y. L. Z. I. (2014). *Recovery of NH4+ by corn cob produced biochars and its potential application as soil conditioner*.

Zhao, H., Xue, Y., Long, L., & Hu, X. (2018). Adsorption of nitrate onto biochar derived from agricultural residuals. *Water Science and Technology*, *77*(2), 548–554. https://doi.org/10.2166/wst.2017.568

Zhou, L., Xu, D., Li, Y., Pan, Q., Wang, J., Xue, L., & Howard, A. (2019). Phosphorus and nitrogen adsorption capacities of biochars derived from feedstocks at different pyrolysis temperatures. *Water (Switzerland)*, *11*(8), 1–16. https://doi.org/10.3390/w11081559

Zhou, Y., Zhang, F., Tang, L., Zhang, J., Zeng, G., Luo, L., Liu, Y., Wang, P., Peng, B., & Liu, X. (2017). Simultaneous removal of atrazine and copper using polyacrylic acid-functionalized magnetic ordered mesoporous carbon from water: Adsorption mechanism. *Scientific Reports*, *7*(March), 1–10. https://doi.org/10.1038/srep43831

Zulkarnaini. (2020). *Penemuan dan Aplikasi Anammox*. Padang.