

DAFTAR PUSTAKA

- Afni, N., Ahda, Y. 2020. Bioaugmentation Effect of *Alcaligenes* sp.2 and Isolates *Bacillus* sp.2 on Lowering Used Lubricating Oil- Contaminated Soil pH. *Serambi Biologi*. Vol. 5 (1) : 1-6.
- Abera, G.E., Wolde, M., Bakken, L.R. 2012. Carbon and Nitrogen Mineralization Dynamics in Different Soils of The Tropics Amended with Legume Residues and Contrasting Soil Moisture Contents. *Biol Fertil Soils*. Vol. 48 : 51– 66.
- AgroAmerica. 2017. *Crude Palm Oil*. [Online] <https://agroamerica.com/en/palm-oil/crude-palm-oil/>. Diakses 18 Juli 2020, pukul 17.54 WIB.
- Andhika, S., Efendi, A.J. 2018. Utilization of Sludge Produced Water Processing Industry Lng as Fertilizer rr Soil Conditioner. *Jurnal Teknik Lingkungan*. Vol. 24 (2) : 67-82.
- Ashari, M.L., Dermawan, D. 2018. Studi Pemanfaatan Limbah Padat Industri Pengolahan Minyak Kelapa Sawit Spent Bleaching Earth sebagai Pengganti Agregat pada Campuran Beton. *Jurnal Presipitasi : Media Komunikasi dan Pengembangan Teknik Lingkungan*. Vol. 15 (1) : 7-10.
- Barus, B.S.,Aryawati, R. Putri, W.A.E., Nurjuliasti, E., Diansyah, G., Sitorus, E. 2019. Hubungan N-Total dan C-Organik Sedimen Dengan Makrozoobentos di Perairan Pulau Payung, Banyuasin, Sumatera Selatan. *Jurnal Kelautan Tropis*. Vol. 22 (2) : 147-156.
- Beshara, A., Cheeseman, C.R. 2009. *Stabilization and Solidification of Spent Bleaching Earth Using Cement Kiln Dust*. London : Department of Civil and Environmental Engineering, Imperial College.
- Bintang, M., Panji, T., Saadah, S. 2015. Immobilization of *Rhizopus oryzae* Lipase on Zeolit, CaCO₃, Silica Gel, and Cow Bone. *Journal of Current Biochemistry*. Vol. 2 (2) : 54-63.
- Bitton, G. 2005. *Wastewater Microbiology* 3rd ed. , New Jersey : A John Wiley & Sons Inc. Publication.
- BPPT. 2013. *Annual Report : Program Pengkajian dan Penerapan Teknologi Lingkungan*. Jakarta : BPPT, hal. 134-157.

- Bundy, J.G., Paton, G. I., and Cambell, C.D. 2004. Combined Microbial Community Level and Single Species Biosensor Responses to Monitor Recovery of Oil Polluted Soil. *Soil Biol Biochem Journal*. Vol. 36 : 1149-1159.
- Campbell, Reece, and Mitchell. 2003. *Biologi Edisi Kelima-Jilid Dua*. Jakarta : Erlangga, hal. 230.
- Cookson, W.R., Cornforth, I.S., Rowarth, J.S. 2002. Winter Soil Temperatur (2 - 15 °C) Effect on Nitrogen Transformations in Clover Green Manure Amandend and Unamandend Soils : A Laboratory and Field Study. *Soil Biol. Biochem*. Vol. 34 : 1401-1415.
- Cylbulski, Z., Dziurla, E., Kaczorek, E., and Olszanowski, A. 2003. The Influence of Emulcifiers on Hydrocarbon Biodegradation by Pseudomonadacia and Bacillacea Strains. *Spill Science Technology Bul*. Vol. 8 : 503.
- Damanhuri, E. (2010). *Diktat Kuliah : Pengelolaan Bahan Berbahaya Dan Beracun (B3)*. Bandung : Teknik Lingkungan ITB.
- Datta, S., Christena, L.R., Rajaram, Y.R.S. 2013. Enzyme Immobilization: An Overview on Techniques and Support Materials. *Biotech*. Vol. 3 (1) : 1-9.
- Djarkasi, G.S.S., Raharjo, S., Noor, Z. 2017. Isolation and Specific Activity of Indigenous Lipase Enzyme in Canarium Nut. *Jurnal Teknologi Pertanian*. Vol. 8 (1) : 28-35.
- Deublein, D., Steinhauser, A., 2008. *Biogas from Waste and Renewable Resources*. Germany : WileyVCH Verlag GmbH Co. KGaA.
- Elyza, F., Gofar, N., Munawar. 2015. Identifikasi dan Uji Potensi Bakteri Lipolitik dari Limbah SBE (Spent Bleaching Earth) Sebagai Agen Bioremediasi. *Jurnal Ilmu Lingkungan*. Vol. 13 (1) : 12-18.
- Forth, H.D., Adisoemarto, S. 1994. *Dasar – Dasar Ilmu Tanah-Edisi Keenam*. Jakarta : Erlangga, hal. 245
- GangLi, X. Z., Rengel, E., Mapfumo, Singh, B. 2007. Increase in pH Stimulates Mineralization of Native Organic Carbon and Nitrogen in Naturally Salt-Affected Sandy Soils. *Plant Soil*. Vol. 290 : 269–282.
- Ghazali, M.F., Zaliha, N.R., Abdul, R.N., Salleh, A.B., dan Basri, M. 2004. Biodegradation of Hydrocarbons in Soil by Microbial Consortium.

International Journal of Biodeterioration and Biodegradation. Vol. 54 : 61-65.

Goenadi, Didiek, H. 2004. Teknologi Pengolahan Zeolit Menjadi Bahan yang Memiliki Nilai Ekonomi Tinggi. *Jurnal Zeolit Indonesia*. Vol. 3 (1) : 1-8.

Gofar, Nuni. 2012. Aplikasi Isolat Bakteri Hidrokarbonoklastik Asal Rizosfer Mangrove pada Tanah Tercemar Minyak Bumi. *Jurnal Lahan Suboptimal*. Vol. 1 (2) : 123-129.

Hardjowigeno, S. 1988. *Ilmu Tanah*. Jakarta : Medyatama Sara Perkasa.

Handayani, R., Sulisty, J. 2005. Transesterifikasi Ester Asam Lemak Melalui Pemanfaatan Teknologi Lipase. *Jurnal Biodiversitas*. Vol.6 : 164-167.

Hasanaji. 2018. *Komposisi Penyusun Tanah dan Fungsinya*. [Online] <https://webpintar.com/> Diakses 5 Februari, 2020, pukul 20.15 WIB

Helbianurramdan, Hindryawati, N., Julia, R.R.D. 2017. Aktivasi *Deoiled Spent Bleaching Earth* (DSBE) dengan Menggunakan Metode Ultrasonik untuk Mengadsorpsi Ion Logam Pb²⁺. *Jurnal Atomik*. Vol. 2 (2) : 241-247.

Heriyani, O., Mugisidi, D. 2016. Pengaruh Karbon Aktif dan Zeolit pada pH Hasil Filtrasi Air Banjir. *National Conference Paper TEKNOKA*. ISBN: 978-602-73919-0-1.

Ilham, K.N., Meidyansyah, A.S., dan Arrozi, W.M. 2017. Reduksi Tumpahan Minyak dengan Menggunakan Metode Kultur Bakteri di TLP West Seno, Selat Makassar. *Jurnal Pros Sem Nas Masy Biodiversitas Indonesia*. Vol 3 (2) : 261.

Jacobs, P.A., Bekkum, H.V., Flanigen, E.M., Jansen, J.C. 2001. *Introduction to Zeolit Science and Practice - 2nd edition*. Amsterdams : Elsevier Science, p.18.

Jayesree, N., Norazah, M.N., Abdul, L.I. 2014. Characterization of Lipase Producing *Rhodococcus* sp. from Peninsular Malaysia. *Journal of Life Sciences and Technologies*. Vol. 2 (1) : 12-19.

Juliani, A., Rahman, F. 2011. Bioremediasi Lumpur Minyak (Oil Sludge) dengan Penambahan Kompos sebagai Bulking Agent dan Sumber Nutrien Tambahan. *Jurnal Sains dan Teknologi Lingkungan*. Vol. 3 (1) : 1-18.

- Kheang, L.S., Cheng, S.F., Choo, Y.M., Ma, A.N. 2006. A Study of Residual Oils Recovery from Spent Bleaching Earth : Their Characteristics and Applications. *J Am App Sci*. Vol. 3 (10) : 2063-2067.
- Knezevic, Z., Mojovic, L., Adnajevic, B. 1998. Palm Oil Hydrolysis by Lipase from *Candida cylindracea* Immobilized on Zeolite Type Y. *Journal of Enzyme and Microbial Technology*. Vol. 22 (4) :275-280
- Krisyanti, S., Sukandar. 2011. Oil Recovery from Hazardous and Toxic Waste Spent Bleaching Earth With Solvent Extraction Method. *Jurnal Teknik Ilmu Lingkungan*. Vol. 17 (1) : 35-46.
- Loh, S.K., James, S., Ngatiman, M., Cheong, K.Y., Choo, Y.M., Lim, W.S. 2013. Enhancement of Palm Oil Refinery Waste Spent Bleaching Earth (SBE) Into Bioorganic Fertilizer and Their Effects on Crop Biomass Growth. *Industrial Crops and Products*. Vol. 49 : 775-781.
- Loh, S.K., Cheong, K.Y., Salimon, J. 2017. Surface-Active Physicochemical Characteristics of Spent Bleaching Earth on Soil-Plant Interaction and Water-Nutrient Uptake. *Applied Clay Science*. Vol. 140 : 59-65.
- Maier-Laxhuber, Peter., Ralf Schmidt, and Christoph Grupp. 2003. Air Ventilated Heatin and Cooling Based on Zeolit Technology. *Zeo-Tech GmbH Journal*. Vol. 3 : 22.
- Moentamaria, D., Againa, G., Ridhawati, M.M., Chumaidi, A., Hendrawati, N. Hidrolisis Minyak Kelapa dengan Lipase Terimobilisasi Zeolit pada Pembuatan Perisa Alami. *Jurnal Bahan Alam Terbarukan*. Vol. 5 (2) : 84-91.
- Notohadiprawiro, T. 2005. Tanah dan Lingkungan. *Kursus AMDAL PLLH UGM. Ilmu Tanah UGM*. Yogyakarta : UGM Press, hal.1-5
- Nuchsin, R., Kunarso, D.H. 1999. Sumbangan Karbon Bakteri dalam Perairan Terumbu Karang Gugus Pulau Pari, Kepulauan Seribu, Jakarta. *Pros Lok. Pengelolaan & Iptek Terumbu Karang Indonesia*. Hal : 98-104.
- Nugroho, Astri. 2006. Bioremediasi Sludge Minyak Bumi dalam Skala Mikroskopis : Simulasi Sederhana sebagai Kajian Awal Bioremediasi Land Treatment. *Makara Teknologi*. Vol. 10 (2) : 82-89.
- Oktarini, D.S., Prisilia, A. 2019. *Ilmuwan Temukan Bakteri Pemakan Minyak di Palung Mariana*. [Online]

<https://m.hitekno.com/sains/2019/04/19/130000/ilmuwan-temukan-bakteri-pemakan-minyak-di-palung-mariana>. Diakses 18 Juni 2020, pukul 19.20 WIB.

- Pagilla, K.R., Canter, .W. 1999. Laboratory Studies on Remediation of Chromium-Contaminated Soils. *Journal of Environmental Engineering*.
- Pratiwi, G.A.P., Atmaja, W.D., Soniari, N.N. 2013. Analisa Kualitas Kompos dengan Mol sebagai Dekomposer. *Jurnal Agroekoteknologi Tropika*. Vol. 2 (4) : 2301-2312.
- Putri, K.R., Aji, Y.I.S. 2012. Pengaruh Penambahan Portland Cement Pada Tanah Terhadap Nilai California Bearing Ratio (CBR). *Tugas Akhir*. Semarang : UNIKA, hal. 5-9.
- Rayes, Mochtar, L. 2017. *Morfologi dan Klasifikasi Tanah*. Malang : UB Press, hal. 4-10.
- Reda, B.A., El-louboudey, S.S., Sidley, N.M., AbdElRahman, M.A. 2007. Production, Purification and Characterization of Thermoalkalophilic Lipase for Application in Bio-Detergent Industry. *Journal of Applied Science Res*, Vol. 39 (12) :1752-1765.
- Rempel, Siefried. 1996. Zeolit Molecular Traps and Their Se in Preventative Conservation. *WAAC Newsletter*, Vol. 18 (1) : 14.
- Setio, Y., Gunam, I.D.W., Gunadnya, I.D.P., Tika, I.W. 2011. Bioremediasi In-Situ Lahan Tercemar Pestisida oleh Mikroba yang Ada pada Kompos. *The Excellent Research*. Universitas Udayana.
- Sharma, R., Chisti, Y. & Banerjee, U.C. 2001, Productin, purification, characterization and applications of lipases. *Biotech Adv*. Vol.19 : 627-662.
- Soleha, S., Retnaningrum, E. 2019. Optimization Extracellular Lipase Activity from *Moraxella* sp. SBE01 for Hydrocarbons Nanoremediation. *Prosiding Jurnal ICBS*.
- Sirisha, E. Rajasekar,N., Narasu, M.L. 2010. Isolation and Optimization of Lipase Producing Bacteria from Oil Contaminated Soils. *Advances in Biological Research*. Vol. 4 (5): 249-252.
- Sriatun, Hastutik, S., Taslimah. 2009. Pemanfaatan Limbah Penyulingan Bunga Kenanga sebagai Kompos dan Pengaruh Penambahan Zeolit terhadap

- Ketersediaan Nitrogen Tanah. *Journal of Scientific and Applied Chemistry*. Vol. 12 (1) : 17-22.
- Suastuti, N.G.A.M., Adhi, D. 2019. Kadar Air dan Bilangan Asam dari Minyak Kelapa yang dibuat dengan Cara Tradisional dan Fermentasi. *Jurnal Kimia*. Vol. 3 (2) : 69-74.
- Sunandar, Raksi. 2009. Pembuatan Bata Ringan Limbah Spent Bleaching Earth (SBE). *Tesis S2 Magister Sistem Teknik*. Yogyakarta : Universitas Gadjah Mada.
- Suryani, A., Pari, G., Aswad, A. 2015. Proses Reaktivasi Tanah Pemucat Bekas Sebagai Adsorben Untuk Pemurnian Minyak Sawit Kasar dan Biodiesel. *Jurnal Teknologi Industri Pertanian*. Vol. 25 (1) : 52-67.
- Sutanto, Rahman. 2005. *Dasar-Dasar Ilmu Tanah : Konsep dan Kenyataan*. Yogyakarta : Penerbit Kanisius, hal. 17-18; 160.
- USEPA. 2015. *A Citizen's Guide to Bioremediation*. [Online] https://www.epa.gov/sites/production/files/201504/documents/a_citizens_guide_to_bioremediation.pdf Diakses 6 Agustus 2020, pukul 18.50 WIB.
- Utomo, W., Sudarsono., Rusman, B., Sabrina, T., Lumbanraja, J., Wawan. 2016. *Ilmu Tanah : Dasar-Dasar dan Pengelolaan*. Jakarta : Penerbit Kencana, hal. 89.
- Vyatrawan, Lukman. 2015. Bioremediasi Tanah Tercemar Minyak Dengan Metode Soil Washing Dan Biostimulasi. *Undergraduate Thesis*. Surabaya : Institut Teknologi Sepuluh Nopember.
- Varjani, S.J. 2017. Microbial Degradation of Petroleum Hydrocarbons. *Bioresource Technology*. Vol. 223 : 277-286.
- Waluyo, Lud. 2018. *Bioremediasi Limbah*. UMM Press : Malang, hal. 1-3.
- Wardoyo, A.F., Kartika, A.I. 2018. Peningkatan Stabilitas Termal dan Stabilitas Penggunaan Berulang Enzim Lipase Melalui Imobilisasi pada Zeolit Alam. *Jurnal Labora Medika*. Vol. 2 (1) : -5.
- Whitelaw, M. 2003. Zeolit: A Cyber Interview. [Online] <http://www.markw.com/zeointvw.htm> Diakses 15 Januari 2020, pukul 19.47 WIB.



Yulipriyanto, H. 2010. *Biologi Tanah dan Strategi Pengelolaannya*. Yogyakarta : Graha Ilmu, hal. 3-15.

Zhao, G., Sheng, Y., Wang, C., Yang, J., Wang, Q., Chen, L. 2018. In Situ Microbial Remediation of Crude Oil-Soaked Marine Sediments Using Zeolite Carrier with A Polymer Coating. *Marine Pollution Bulletin*. Vol. 129 : 172-178.