

DAFTAR PUSTAKA

- Agustina, T. E., & Amir, M., 2012. Pengaruh Temperatur dan Waktu pada Pengolahan Pewarna Sintetis Procion Menggunakan Reagen Fenton. *Jurnal Teknik Kimia*, 18(3), pp. 54-61.
- Alaydrus, A.T., 2020. Pemanfaatan Alat Penjernih air Berbasis Kayu Bakau dan Batu Apung. *Jurnal Abdi Insani*, 7(3), pp. 254-360.
- Almeida, E.J.R. & Corso, C.R., 2014. Comparative Study of Toxicity of Azo Dye Procion Red Mx-5b Following Biosorption and Biodegradation Treatments with The Fungi *Aspergillus niger* and *Aspergillus terreus*. *Chemosphere*, 112, pp. 317-322.
- Ameen, F., Dawoud, T.M., Alshehrei, F., Alsamhary, K. & Almansob, A., 2021. Decolorization of Acid Blue 29, Disperse Red 1 and Congo Red by Different Indigenous Fungal Strain. *Chemosphere*, 271(2021), pp. 1-9.
- Andleeb, S., Atiq, N., Ali, M.I., Hussaint, R.R., Shafique, M., Ahmad, B., Ghumro, P.B., Hussain, M., Hameed, A. & Ahmad, S., 2010. Biological Treatment of Textile Effluent in Stirred Tank Bioreactor. *International Journal of Agriculture & Biologi*, 12(2), pp. 256-260.
- Andleeb, S., Atiq, N., Robson, G.D. & Ahmed, S., 2012. An Investigation os Antgraquinone Dye Biodegradation by Immobilized *Aspergillus flavus* in Fluidized Bed Bioreactor. *Environmental Science and Pollution Research*, 19, pp. 1728-1737.
- Atlas, R.M., 1995. *Media for Environmental Microbiology*. Florida : CRC Press.
- Bagaskoro, K.C., 2019. Penggunaan Arduino UNO Untuk Pengukuran Suhu, pH, dan DO Air Kolam Ikan Bawal Menggunakan Logika Fuzzy. *Jurnal Riset Komputer*, 6(2), pp. 138-142.
- Bakar, S.N.A., 2025. Kemampuan *Aspergillus* sp. 3 dalam Dekolorisasi Limbah Cair Batik pada Acrylic Ring Sparger dengan Waktu Inkubasi yang Berbeda. *Skripsi*. Purwokerto: Universitas Jenderal Soedirman.
- Balai Standar Nasional, 2014. [SNI] Standar Nasional Indonesia Nomor 8027.3:2014. *Agens Pengendali Hayati (APH)-Bagian 3 : Tricchoderma spp*. Jakarta : Balai Standar Nasional.
- Belaon, B.T. & Hendrasarie, N., 2023. Penurunan Beban Organik Limbah Batik Jetis Menggunakan Adsorben Serat Tebu, Kulit Kedelai dan Kulit Bawang. *Jurnal Serambi Engineering*, 8(3), pp. 6180-6190.
- Christie, R.M., 2001. *Colour Chemistry*. Cambridge: The Royal Society of Chemistry.
- Costa, F.C.R., Brito, F.S.L., Grandi, M.J.R. & Daniel, J.F.J., 2025. White Rot Fungi for Biodegradation of Dyes: Potential for Industrial Uses. *Journal of The Brazilian Chemical Society*, 36(6), pp. 1-27.
- Das, S.K., Bhowal, J., Das, A.R. & Guha, K., 2006. Adsorption Behavior of Rhodamine B on Rhizopus oryzae Biomass. *Langmuir*, 22(17), pp. 7265-7272.

- Davet, P. & Rouxel, F., 1997. *Detection and Isolation of Soil Fungi*. New York : Science Publisher Inc.
- Dewi R.S., & Lestari, S. 2010. Dekolorisasi Limbah Batik Tulis Menggunakan Jamur Indigenous Hasil Isolasi pada Konsentrasi Limbah yang Berbeda. *Molekul*, 5(2), pp. 75-82.
- Dewi, R.S., 2022. Biosensor dan Bioreaktor Double Filter Solusi Pencemaran Air Limbah Industri. *Laporan Akhir*. Purwokerto: LPPM Universitas Jenderal Soedriman.
- Dewi, R.S., dan Khotimah, 2019. *Aspergillus* sp. 3 pada Pengolahan Limbah Cair Batik Kutawaru Cilacap dan Pengaruhnya terhadap *Zea mays* dan *Vigna radiate*. *Life Science*, 8(2), pp. 150-159.
- Dewi, R.S., Kasiamdari, R.S., Martani, E., & Purwestri, Y.A., 2018. Decolorization and Detoxification of Batik Dye Effluent Containing Indigosol Blue-04B Using Fungi Isolated from Contaminated Dye Effluent. *Indonesian Journal of Biotechnology*, 23(2), pp. 54-660.
- Dewi, R.S., Kasiamdari, S.R., Martani, E. & Purwestri, Y.A., 2016. Studi Komparatif Penurunan Warna Limbah Cair Batik Menggunakan *Aspergillus niger*. *Prosiding Symbion*, pp. 269-278.
- Dewi, R.S., Kasiamdri, R.S., Martani, E. & Purwestri, Y.A., 2021. Mechanism of Indigosol Blue 04B Batik Dye Wastewater Degradation by *Aspergillus* sp. 3 and Its Product Analysis. *Research Journal of Biotechnology*, 16(2), pp. 34-42.
- Dewi, R.S., Kasiamdri, R.S., Martani, E., & Purwestri, Y.A., 2019b. Optimization of The Conditions for Decolorization of Batik Wastewater by *Aspergillus* sp. 3. *AIP Conference Proceedings*, 2094(1), pp. 020-036.
- Dewi, R.S., Sari, A.A. & Fazrian, R.A., 2022. Decolorization of Indigosol Blue Batik Effluent Using *Lepiota* sp. Isolated From Baturaden Botanical Garden. *IOP Conference Series: Earth and Environmental Science*, 1017(1), pp. 1-8.
- Dewi, R.S., Ulfimaturahman, F.A. & Khotimah, K., 2019a. The Decolorization Effect by *Aspergillus* sp. 3 on Goldfish *Opercular beats*. *Journal of Microbial Systematics and Biotechnology*, 1(2), pp. 18-26.
- Dimawarnita, F. & Panji, T., 2019. Aktivitas Enzim Ligninolitik *Pleurotus ostreatus* pada Media yang mengandung TKKS dan Aplikasinya untuk Dekolorisasi Zat Warna. *Menara Perkebunan*, 87(1), pp. 31-40.
- Dinakarkumar, Y., Ramakrishan, G., Gujjula, K.R., Vasu, V., Balamurugan, P. & Murali, G., 2024. Fungal Bioremediation : An Overview of The Mechanisms, Applications and Future Perspectives. *Environmental Chemistry and Ecotoxicology*, 6, pp. 293-302.
- Fassatiova, O., 1986. *Moulds and Filamentous Fungi in Technical Microbiology*. New York : Elsevier.
- Ferkous, H., Merouani, S., Hamdaoui, O., Rezgui, Y. & Guemini, M., 2015. Comprehensive Experimental and Numerical Investigations of The Effect on Frequency and Acoustic Intensity on The Sonolytic Degradation on Naphtol Blue Black in Water. *Ultrasonic Sonochemistry*, 26, pp. 30-39.

- Gandjar, I., Sjamsuridjal, W. & Oetari, A., 2006. Mikologi Dasar dan Terapan. Jakarta: Yayasan Obor Indonesia.
- Gao, D., Zheng, J., Yu, X., Dong, T. & Chen, S., 2014. Improved Lipid Accumulation by Morphology Engineering of Oleaginous Fungus *Mortierella isabellina*. *Biotechnology and Bioengineering*, 111(9), pp.1758-1766.
- Haribowo, R., Megah, S. & Rosita, W., 2019. Efisiensi Sistem Multi Soil Layering pada Pengolahan Air Limbah Domestik pada Daerah Perkotaan Padat Penduduk. *Jurnal Teknik Pengairan*, 10(1), pp. 11-27.
- Hasanudin, H. & Lestari, K., 1997. Pengaruh Suhu dan Waktu Oksidasi pada Proses Pencelupan Batik Kain Kapas dengan Zat Warna Indigosol. *Dinamika Kerajinan dan Batik*, 16, pp. 16-23.
- Hasri, Sudding & Amuruddin, A., 2018. Biodegradasi Zat Warna Acid Orange 7 Menggunakan Jamur Tiram Putih (*Pleurotus ostreatus*). *Jurnal Kimia Riset*, 3(1), pp. 47-51.
- Hendrasarie, N., Firra, R., Raden, K.H. & Andika, 2021. Kombinasi Proses Koagulasi-Flokulasi dengan Sequencing Batch Reactor untuk Menurunkan Kandungan Organik pada Limbah Batik. *Jukung: Jurnal Teknik Lingkungan*, 7(2), pp, 131-139.
- Hofrichter, M., 2002. Rivew: Lignin Conversion by Manganese Proxidase (MnP). *Enzyme and Microbial Technology*, 30(2004), pp. 454-466.
- Husseiny, S.M., 2008. Biodegradation of the Reactive and Direct Dyes using Egyptian Isolates. *Journal of Applied Sciences Research*, 4(6), pp. 599-606.
- Ibrahim, D., Weloosamy, H. & Lim, S., 2015. Effect of Agitation Speed on The Morphology of *Aspergillus niger* HFD5A-1 hypha and Its Pectinase Production in Submerged Fermentation. *World Journal Biological Chemistry*, 6, pp. 265-271.
- Ilmi, I.M. & Kuswyasari, N.D., 2013. Aktivitas Enzim Lignin Peroksidase oleh *Gliomastix* sp. T3,7 pada Limbah Bonggol Jagung dengan Berbagai pH dan Suhu. *Jurnal Sains dan Seni Pomitis*, 2(1), pp. 38-42.
- Isnaeni, U., Abdullah, S. & Budiono, Z., 2020. Efisiensi Multi Soil Layering untuk Menurunkan Kadar Warna pada Air Limbah di Industri Batik R Kecamatan Sokaraja Kabupaten Banyumas. *Buletin Keslingmas*, 40(3), pp. 118-122.
- Jabeen, S., Ganie, A.S., Bala, S. & Khan, T., 2023. Photocatalytic Degradation of Malachite Green Dye via An Inner Transition Metal Oxide-Based Nanostructure Fabricated through a Hydrothermal Route. *Material Proceeding*, 14(1), pp. 5.
- Kacar, Y. & Arica, M.Y., 2001. Preparation of Reversivly Immobilized Lysosome onto Procion Green H-E4BD attached Poly(hydroxyethylmethacrylate) Film for Hydrolysis of Bacterial Cells. *Food Chemistry*, 75, pp. 325-332.
- Kim, T.H., Lee, Y., Yang, J., Lee, B., Park, C. & Kim, S., 2004. Decolorization of Dye Solutions by a Membrane Bioreactor (MBR) Using White-Rot Fungi. *Desalination*, 168, pp. 287-293.

- Kusnaedi, 2010. *Mengolah Air Gambut dan Air Kotor untuk Air Minum*. Jakarta: Penebar Swadaya.
- Laksono, A., 2012. *Pengolahan Biologis Limbah Batik dengan Media Biofilter. Skripsi*. Depok: Universitas Indonesia.
- Li, J.F., Rupa, E.J., Hurh, J., Huo, Y., Chen, L., Han, Y., Ahn, J.C., Park, J.K., Lee, H.A., Mathiyalagan, R. & Yang, D.C., 2019. Cordyceps Militaris Fungus Mediated Zinc Oxide Nanoparticles for the Photocatalytic Degradation of Methylene Blue. *Optik*, 183, pp. 691-697.
- Luanmanee, S., Attanandana, T., Masunaga, T. & Wakatsuki, T., 2001. The Efficiency of a Multi-Soil-Layering System on Domestic Wastewater Treatment During the Ninth and Tenth Years of Operation. *Ecological Engineering*, 18(2), pp. 185-199.
- Lueangjaroenkit, P., Teerapatsakul, C. & Chitradon, L., 2018. Morphological Characteristic Regulation of Ligninolytic Enzyme Produced by *Trametes polyzona*. *Mycobiology*, 46(4), pp. 396-406.
- Mahmoud, A.S., Ghaly, A.E. & Brooks, S.L., 2007. Influence of Temperature and pH on the Stability and Colorimetric Measurement of Textile Dye. *American Journal of Biotechnology and Biochemistry*, 3(1), pp. 33-41.
- Manurung, R., Hasibuan, R. & Irvan, 2004. *Perombakan Zat Warna Azo Secara Anaerob-Aerob*. Medan : Universitas Sumatera Utara.
- Mardhiya, I.R., Surtono, A. & Suciya, S.W., 2017. Sistem Akuisisi Data Pengukuran Kadar Oksigen Terlarut pada Air Tambak Udang Menggunakan Sensor Dissolved Oxygen (DO). *Jurnal Teori dan Aplikasi Fisika*, 5(2), pp. 133-140.
- Martani, E., Margino, S., & Nurnawati, E., 2011. Isolasi dan Karakterisasi Jamur Pendegradasi Zat Pewarna Tekstil. *Jurnal Manusia dan Lingkungan*, 18(2), pp. 127-136.
- Minussi, R.C., Demoraes, S.G., Pastore, G.M. & Duran, N., 2001. Biodecolorization Screening of Synthetic Dyes by Four White Rot Fungi in a Solid Medium: Possible Role Siderophores. *Letters in Applied Microbiology*, 33(1), pp. 21-25.
- Morti, T., Destiarti, L. & Idiawati, N., 2018. Penentuan Kadar Besi (Fe) pada Air Gambut Menggunakan Spektrofotometer Ultra Violet-Visible dengan Perbandingan Pengompleks Fenantrolin dan Alizarin Red S. *Jurnal Kimia Khatulistiwa*, 7(3), pp. 109-117.
- Muslimah, S. & Kuswitasari, N.D., 2013. Potensi Basidiomycetes Koleksi Biologi ITS Sebagai Agen Biodekolorisasi Zat Warna RBBR. *Jurnal Sains dan Seni ITS*, 2(2), pp. 234-239.
- Nurcahyo, F.D., Azizah, H.P.N., Azzam, A.K., Setiawan, M.A.A.A., Atmaja, C.W. & Rachmawati, S., 2025. Efficient Removal of Indigosol Blue Using Activated Carbon from Kepok Bananas (*Musa paradisiaca* x *balbisiana*) Peels. *Journal Limnology and Water Resources*, 1(7), pp. 67-77.
- Nurhaedar, N., Fahrudin, F., Syam, N.A. & Talessang, N.H., 2019. Dekolorisasi dan Degradasi Limbah Zat Warna Naftol Oleh Jamur dari Limbah Industri Batik. *Jurnal Ilmu Alam dan Lingkungan*, 10(2), pp. 1-8.

- Nurroisah, E., Indarjo, S. & Wahyuningsih, A.S., 2014. Keefektifan Aerasi Sistem Tray dan Filtrasi Sebagai Penurun Chemical Oxygen Demand dan Padatan Tersuspensi pada Limbah Cair Batik. *Unnes Journal of Public Health*, 3(4), pp. 56-64.
- Nurzihan, A., Nuri, R.U., Siregar, S.H. & Nasution, H., 2019. Adsorpsi Zat Warna Methylene Blue Menggunakan Bentonit Termodifikasi Ethylene Diamine Tetra Aceticacid (EDTA). *Prosiding Sains Teknologi & Kesehatan*, 1, pp. 1-12.
- Ozerden, E., Ozden, P., Kariper, A. & Pakma, O., 2022. The Electrical Characterization of Metal-Insulator-Semiconductor Device With β -Naphthol Orange Interface. *Journal of Materials Science*, 33, pp. 1-3.
- Rani, C., Jana, A.K. & Bansal, A., 2011. Studies on the Biodegradation of Azo Dyes by White rot Fungi *Daedalea flavida* in the Absence of External Carbon Source. *IPCBE*, 6(1), pp. 147-150.
- Schlegel, H.G. & Schmidt, K., 1994. *Mikrobiologi Umum*. Yogyakarta: Gadjah Mada University Press.
- Seyis, I. & Subasioglu, T., 2008. Comparison of Live and Dead Biomass of Fungi on Decolorization of Methyl Orange. *African Journal Biotechnology*, 7(13), pp. 2212-2216.
- Simanjuntak, D.S., Lestari, P.P., Ramayana, Zainal, Rizky, P., Bahri, T. & Fahlevi, T., 2025. Saringan Sederhana untuk Pemenuhan Air Bersih Rumah Tangga di Desa Sumber Melati Diski. *Jurnal Pengabdian Kepada Masyarakat*, 2(3), pp. 267-273.
- Singh, H., 2006. *Mycoremediation: Fungal Bioremediation*. New Jersey: John Wiley & Sons.
- Singh, L. & Singh, V.P., 2015. *Textile Dye Degradation : A Microbial Approach for Biodegradation of Pollutants*. Switzerland: Springer International Publishing.
- Solis, M. Solis, A., Perez, H., Manjarrez, N. & Flores, M., 2012. Microbial Decolorization of Azo Dyes : a Review. *Process Biochemistry*, 47, pp. 1723-1748.
- Subowo, Y.B. & Corazon, 2010. Seleksi Jamur Tanah Pengurai Lignin dan Pah dari Beberapa Lingkungan di Bali. *Berita Biologi*, 10(2), pp. 227-233.
- Sugiyana, D. & Notodarmojo, S., 2015. Studi Mekanisme Degradasi Fotokatalitik Zat warna Azo Acid Red 4 Menggunakan Katalis Mikropartikel TiO₂. *Arena Tekstil*, 30(2), pp. 83-94.
- Sulianto, A.A., Kurniati, E. & Hapsari, A.A., 2020. Perancangan Unit Filtrasi untuk Pengolahan Limbah Domestik Menggunakan Sistem Downflow. *Jurnal Sumberdaya Alam dan Lingkungan*, 6(3), pp. 31-39.
- Sullia, S. 2000. *Fungal Diversity and Bioremediation*. Departemen od Microbiology & Biotechnology. Bangalore: Bangalore University.
- Timar-Balazsy, A. & Eastop, D., 2011. *Chemical Principles of Textile Conservation*. London: Routledge.

- Ulfimarutahmah, F.A., Dewi, R.S. & Sari, A.A., 2020. *Aspergillus* sp. for Indigosol Blue and Remazol Brilliant Blue R Decolorization. *Jurnal Ilmiah Biologi Unsoed*, 2(3), pp. 435-439.
- Vaithanomsat, P., Apiwatanapiwat, W., Petchoy, O. & Chedchant, J., 2010. Decolorization of Reactive Dye by White-Rot Fungus *Datronia* sp. KAPI00039. *Kasetsart Journal-Natural Science*, 44(5), pp. 879-890.
- Valentino, Nasir, B. & Toana, M.H., 2020. Pengaruh Ekstrak Akar Tuba (*Derris elliptica* Benth) Terhadap Mortalitas *Pomacea canaliculata* Lamarck pada padi (*Oryza sativa* L.). *Jurnal Agroland*, 27(1), pp. 89-98.
- Wahyudi, R., Kasjono, H.S. & Haryanti, S., 2022. Efektivitas Penurunan Surfaktan pada Air Limbah Cuci Tangan Menggunakan Filtrasi Kelapa. *Jurnal Kesehatan Lingkungan Ruwa Jurai*, 16(3), pp. 146-151.
- Wang, W., Liu, F., Jiang, Y., Wu, G., Guo, L., Chen, R. & Xie, B., 2015. The Multigene Family of Fungal Laccases and Their Expression in The White Rot Basidiomycete *Flammulina velutipes*. *Gene*, 563(2), pp. 142-149.
- Widayat, Abdullah, Soetrisnanto, D. & Hadi, M., 2011. Perpindahan Massa Gas Cair dalam Proses Fermentasi Asam Sitrat dengan Bioreaktor Bergelembung. *Momentum*, 7(2), pp. 14-17.
- Wilkolazka, A.J., Rdest, J.K., Malarczyk, E., Wardas, W. & Leonowicz, A., 2002. Fungi and Their Ability to Decolourize Azo and Anthraquinonic Dyes. *Enzyme and Microbial Technology*, 30, pp. 566-572.
- Wiloso, E.I., 1999. Dekolorisasi Limbah Cair Berwarna yang Mengandung Orange oleh *Penicillium* sp. *Prosiding Semnas VIII Kimia dalam Industri dan Lingkungan*, pp. 16-17.
- Winara, A., Achmad & Falah, S., 2014. Pengaruh Media Kultur dan Ekstrak Biji Mahoni Terhadap Pertumbuhan Isolat *Botryodiplodia* sp. Penyebab Mati Pucuk pada Bibit Jabon. *Jurnal Silvikultur Tropika*, 5(3), pp. 137-142.
- Wulandari, F.Y., Ratnaningtyas, N.I. & Dewi, R.S., 2014. Dekolorisasi Limbah Batik Menggunakan Limbah Medium Tanam *Pleurotus ostreatus* pada Waktu Inkubasi yang Berbeda. *Scripta Biologica*, 1(1), pp. 71-75.
- Zhang, F. & Yu, J., 2000. Decolourisation of Acid Violet 7 with Complex Pellets of White Rot Fungus and Activated Carbon. *Bioprocess Engineering*, 23(3), pp. 295-301.
- Zhang, Q., Xie, X., Liu, Y., Zheng, X., Wang, Y., Cong, J., Yu, C., Sand, W. & Liu, J., 2020. Co-metabolic Degradation of Refractory Dye: A Metagenomic and Metaproteomic Study. *Environmental Pollution*, 256, pp. 1-7.