

## DAFTAR PUSTAKA

- Abadulla, E., Tzanov, T., Costa, S., Robra, K. H., Cavaco-Paulo, A., Gubitz, G. M. 2000. Decolorization and detoxification of textile dyes with laccase from *Trametes hirsuta*. Environ. Microbiol. 66: 3357-3362.
- Alexander. M. 1994. Biodegradation and Bioremediation. Academic Press, New York.
- Anonim. 2013. Direct Yellow 50 <<http://www.worlddyevariety.com/direct-dyes/direct-yellow-50.html>> Diakses tanggal 10 November 2014
- Anonim. 2014. Pigment Red 8. <<http://www.dyestuffintermediates.com/pigment-dye/pigment-red-8.html>> Diakses tanggal 11 November 2014
- Awaluddin, R., S. Darah, C. D. Ibrahim, A. M. Uyub. 2001. Decolorization of commercially available synthetic dyes by the white rot fungus *Phanerochaete chrysosporium*. J. Fungi and Bactery 62: 55-63.
- Boer, C. G., L. Obici, C. G. M. de Souza, R. M. Peralta. 2004. Decolorization of synthetic dyes by solid state cultures of *Lentinula edodes* producing manganese peroxidase as the main ligninolytic enzyme. Bioresource Technology 94: 107-112.
- Brena, B. M. dan F. B. Viera. 2006. Methods in Biotechnology: Immobilization of Enzymes and Cells, Second Edition. Humana Press Inc., Totowa, NJ.
- Bucke, C. 1980. Cell immobilisation in calcium alginate. Philip Lyle Memorial Research Laboratory, Reading.
- Cascio, J. 1994. Best management practices for pollution prevention in the textile industry. J. Environmental Protection 96: 625-629.
- Chang, J. S, dan T. S. Kuo. 2000. Kinetics of bacterial decolorization of azo dye with *Eschericia coli* NO3. Bioresour. Technol. 75: 107-112.
- Chibata, I. 1978. Immobilized Enzyme. Kodanska, Tokyo.
- Chivukula, M. dan V. Renangathan. 1995. Phenolic azo dye oxidation from *Pyricularia oryzae*. Appl. Environ. Microbiol. 61: 4374-4377.
- Christian, H., E. Suwito, T. A. Ferdian, T. Setiadi, S. H. Suhardi. 2007. Kemampuan Pengolahan Warna Limbah Tekstil oleh Berbagai Jenis Fungi dalam Suatu Bioreaktor. Institut Teknologi Sepuluh Nopember, Surabaya.
- Conneely, A. W. F. Smyth, G. McMullan. 2002. Study of the white-rot fungal degradation of selected pythalocyanine dyes by capillary electrophoresis and liquid chromatography. Anal. Chim. Acta. 451: 259-270.

- Das, K. D., J. Bhowal, A. R. Das, dan A. K. Guha. 2006. Adsorption behaviour of Rhodamine B on *Rhizopus oryzae* biomass. American Chem. Society 22: 7265-7272.
- Das, K. D. P. Ghosh, I. Ghosh, dan A. K. Guha. 2008. Adsorption of Rhodamine B on *Rhizopus oryzae*: Role of functional groups and cell wall components. Biointerfaces 65: 30 -34.
- Elizalde-Gonzalez, M. P., L.E. Fuentes-Ramirez, M.R.G. Guevara-Villa. 2009. Degradation of immobilized azo dyes by *Klebsiella sp.* UAP-b5 isolated from maize bioadsorbent. Journal of Hazardous Materials 161: 769–774
- Fritsche. W, dan M. Hofrichter. 2008. Aerobic Degradation by Microorganisms. Biotechnology Environmental Processes II, Volume 11b, Second Edition. Wiley-VCH Verlag GmbH, Weinheim.
- Glen, J. K. dan M. H. Gold. 1983. Decolorization of several polymeric dyes by the lignin-degrading Basidiomycete *Phanerochaete chrysosporium*. Appl. Environ. Microbiol. 45: 1741-1747.
- Glicksman, M. 1982. Food Hydrocolloids. CRC Press Inc., Florida.
- Govindwar. S. P. d. P. Jadhav. 2006. Biotransformation of malachite green by *Saccharomyces cereviceae* MTCC 463. Yeast 23: 315-323.
- Gulay, S. 2009. Immobilization of Thermophilic Recombinant Esterase Enzyme by Entrapment in Coated Ca-Alginate Beads. Thesis. Graduate School of Engineering and Sciences of Izmir Institute of Technology, Izmir.
- Heaton, A. 1994. The Chemical Industry, Second edition. Balckie Academic and Profesional, Chapman and Hal London.
- Holt, J.G., N. R. Krieg, P. H. A. Sneath, S. William. 1994. Bergeys Manual of Determinative Biology. 9<sup>th</sup> ed. Williams & Wilkins, USA.
- Hoo, K. dan W. Suryo. 1982. Pengolahan Air Industri. Pusbangtepa IPB, Bogor.
- Keharia, H. dan D. Madamwar. 2003. Bioremediation concepts for treatment of dye containing water: A review, Indian Journal of Experimental Biology 41: 1068.
- Kierstan, M.P.J., dan M.P. Coughlan. 1985. Immobilization of cells and enzymes by gel entrapment. Di dalam: J. Woodward (ed). Immobilised Cells and Enzymes.A Practical Approach. Oxford: IRL. Pr. Hlm. 39-48.
- Klibanov, A. M. 1983. Immobilized enzymes and cells as practical catalyst.Journal of Science. 219: 720-727.
- Mathur, N., P. Bhatnagar, P. Bakre. 2005. Assessing mutagenicity of textile dyes from Pali (Rajasthan) using ames bioassay. Applied Ecology and Environmental Research 4: 111-118

- Mazmanci, M. A., U. Ali, E. A. Erkurt, N. B. Arkey, E. Bilen, M. Ozyurt. 2009. Colour removal of textile dyes by culture extract obtained from *White rot fungi*. Afr. J. Microbiol. Res 3: 585-589.
- Mizuno, H., T. Saito, N. Iso, N. Onda, K. Noda, K. Takada. 1983. Mannuronic to guluronic acid ratios of alginic acid prepared from various brown seaweeds. Bulletin of the Japanese society of scientific fisheries 40: 1591-1593.
- Muchtadi, D, S. P. N. Heni dan M. Astawan. 1992. Enzim dalam Industri Pangan. Depdikbud. Dirjen Dikti, PAU Pangan dan Gizi IPB, Bogor.
- Namerow, N. L. dan A. Dasgupta. 1991. Industrial and Hazardous Waste Treatment. Van Nostrand Reinhold, New York.
- Niladevi. K. N. 2009. Biotechnology for Agro-industrial Residues Utilisation. Springer Science, Netherland.
- Orth, A. B., dan M. Tien. 1995. Biotechnology of lignin degradation: Genetics and biotechnology. The Mycota 2: 287-302.
- Padmavathy, S., S. Sandhya, K. Swaminathan, V. Subrahmanyam. 2003. Aerobic decolorization of reactive azo dyes in presence of various cosubstrates. Chem. Biochem. Eng. G. 17: 147-151.
- Prabhakar, P. K. C. 2012. Bioremediation of Textile Dyes and Improvement of Plant Growth by Marine Bacteria. University of Boras, Boras.
- Prayudyaningsih, R. H., N. A. Tikupangdan, Malik. 2007. Jamur pendegradasi lignin pada seresah Eboni (*Diospyros celebica* Bakh.) Prosiding Ekspose 81-88.
- Punj, S. 2008. Characterization of Azo Dye Reduction in *Enterococcus faecalis*. Oklahoma State University. ProQuest LLC, United States.
- Ramachandran, T., P. Ganesan, dan S. Hariharan. 2009. Decolourization of textile effluents: An overview. J. Inst. Engineers 90: 20-25.
- Rajaguru. P, K. Kalaiselvi, M. Palanivel, V. Subburam. 2000. Original Paper. Biodegradation of azo dyes in sequential anaerobic-aerobic system. Springer-Verlag 2000. Appl. Microbiol. Biotechnol. 54: 268-273.
- Robinson, T., G. McMullan, R. Marchant, dan P. Nigam. 2001. Remediation of dyes in textile effluent: a critical review on current treatment technologies with a proposed alternative. Biores. Technol. 77: 247-255.
- Rini, Y. A. P., 2013. Biodegradasi Pewarna Azo *Orange G* dengan Teknik Imobilisasi Isolat Bakteri. Universitas Gadjah Mada, Yogyakarta.

- Risch, S.J. 1995. Encapsulation: Overview of uses and techniques, encapsulation and controlled release of food ingredients. *American Chemical Society* 1: 2-7.
- Salle, A. J. 1974. *Fundamental Principles of Bacteriology*. Tata Mc.Graw Hill Publ. Co., New Delhi.
- Salter, G. J. dan D. B. Kell. 1991. New material and technology for cell immobilization. *Current Opinion in Biotechnology* 2: 385-389.
- Santos, A. B., F. J. Cervantes, J. B. van Lier. 2007. Review paper on current technologies for decolorisation of textile wastewater: Perspective for anaerobic biotechnology. *ScienceDirect Bioresource Technology* 98: 2369-2385.
- Sebayang, F. 2006. Imobilisasi enzim papain dari getah papaya dengan alginate. *Jurnal Komunikasi Penelitian* 18: 34-38.
- Selvam, K., K. Swaminathan, K. S. Chae. 2003. Decolourization of Azo Dyes and a Dye Industry Effluent by a White Rot Fungus *Thelephora* sp. *Bioresource Technology* 88: 115-119.
- Shah, M. P. 2014. Isolation and screening of dye decolorizing bacteria. *Journal of Applied & Environmental Microbiology* 5: 244-248.
- Smidsrod, O. 1974. Molecular basis for some physical properties of alginates in the gel state. *Chem. Soc.* 57: 263-274.
- Solis, M., A. Solis, H. I. Perez, Manjarrez, M. Flores. 2012. Review microbial decolouration of azo dyes: A Review. *Elsevier Process Biochemistry* 47: 1723-1748
- Stolz, A. 2001. Basic and applied aspect in the microbial degradation of azo dyes. *Appl. Microbial Biotechnol.* 56: 69-80.
- Sudha, M., A. Saranya. G. Selvakumar, dan N. Sivakumar. 2014. Microbial degradation of azo dyes: A review. *Int. J. Curr. Microbiol. App. Sci.* 3: 670-690.
- Suhartono. M. T. 1989. *Enzim dan Bioteknologi*. Departemen Pendidikan dan Kebudayaan. Direktorat Jenderal Pendidikan Tinggi Antar Universitas Bioteknologi. Institut Pertanian Bogor, Bogor.
- Sunarto. 2008. *Teknologi Pencelupan dan Pencapan Jilid I*. Jakarta: Departemen Pendidikan Nasional.
- Supaka, N. J., K. D. S. Delia, L. S. Pierre. 2004. Microbial decolorization of reactive azo dyes in sequential anaerobic-aerobic system. *Chem. Eng. J.* 99: 169-176.
- Urairuj, C., C. Khanongnuch, dan S. Lumyong. 2003. Ligninolytic enzymes from tropical endophytic *Xylariaceae*. *Fungal Diversity* 13: 209-219.

- Vishwakarma, S. K., M. P. Singh, A. K. Srivastava, V. K. Pandey. 2012. Azo dye (Direct blue) decolorization by immobilized extracellular enzymes of *Pleurotus* species. *Cell. Mol. Biol.* 58: 21 – 25.
- Wahjono, H. D. 2009. Pengembangan sistem pengelolaan data kualitas air limbah domestik perkotaan. *JAI* 5: 83 – 88.
- Wallace, H. T., 2011. Biological Treatment of a Synthetic Dye Water and an Industrial Textile Wastewater Containing Azo Dye Compounds. Thesis. Environmental Engineering. Faculty of Virginia Polytechnic Institute and State University.
- Wang, Nam Sun. 2000. Experiment No. 7: Enzyme Immobilization by Gel Entrapment. <[www.eng.umd.edu](http://www.eng.umd.edu)> Diakses tanggal 10 November 2014.
- Wilkolazka, A. J., J. K. R. Dest, E. Malarczyk, W. Wardas, A. Leonowicz. 2002. Fungi and their ability to decolorize azo and anthraquinomic dyes. *Enzyme Microb. Tech.* 30: 566-572.
- Yan, H, dan G. Pan. 2004. Increase in biodegradation of dimethyl phtalate by *Closterium lunula* using inorganic carbon. *Chemosphere* 55: 1282.
- Yoo, E. S. 2000. Kinetics of chemical decolorization of the azo dye C. I. Reactive Orange 96 by sulfide. *Chemosphere*. 47: 925-31
- Zille, A. 2005. Laccase Reaction for Textile Application I, Disertasi. Textile Departement Universidade do Minho
- Zaoyan, Y., S. Ke, S. Guangliang, Y. Fan, D. Jinshan, dan M. Huanian. 1992. Anaerobic-aerobic treatment of a dye waste water by combination of RBCwith activated sludge. *Water Sci. Technol.* 26: 2093-2096.