

## DAFTAR PUSTAKA

- A. Hattaka. (1994). Modifying enzymes from selected white-rot fungi : production and role in lignin degradation. *microbiology vol 13*, 125-135.
- Achmad, M, T. Arlanti, & C. Azmi. (2011). *Panduan lengkap jamur*. Jakarta: Penebar Swadaya.
- Amar, K.M., Manjusri, M, & Lawrence, T.D. (2005). Natural fibers, biopolymers and bio-composites. *CRS Press, Tailor & Francis*.
- Bello, S, Agunsoye, J, Hassan, S. B, Kana, M. G, & Raheem, I. (2015). Epoxy resin based composites, mechanical and tribological properties: A review. *Tribology in Industry*.
- Bipro, B. (2015). Assessment of potential BPA emissions summary paper. *Epoxy resin committee*.
- Bisanda ETN. (2000). The effect of alkali treatment on the adhesion characteristics of sisal fibers. *App. compos. Mater*, 7 : 331-339.
- Chang, S.T, & Miles, P. G. (1989). *Edible mushrooms and their cultivation*. Boca raton: CRC Press.
- Dashtban H, Schraft H, Syed TA, & Qin W. (2010). Fungal biodegradation and enzymatic modification of lignin. *Internation Journal Biochem. Mol. Biol.*, 1(1) : 36-50.
- Djarijah NM, & Djarijah AS. (2001). *Jamur tiram pembibitan pemeliharaan dan pengendalian hama-penyakit*. Yogyakarta: Penerbit Kanisius.
- Dwyana, Z, & Gobel, R. B. (2011). *Penuntun praktikum mikrobiologi umum*. Makassar: Laboratorium Mikrobiologi, Jurusan Biologi, Fakultas Matematika dan Ilmu Pengetahuan Alam.
- El-Messiry, M. (2017). Natural fiber textile composite engineering. *Apple Academic Press*.
- Fadilah, Sperisa Distantina, Enny Kriswiyanti Artati, & Arif Jumari. (2008). Biodelignifikasi batang jagung dengan jamur pelapuk putih phanerochaete chrysosporium. *Ekuilibrium vol. 7*, 7-11.
- Fengel, D, & G. Wegener. (1995). *Kayu : Kimia, Ultrastruktur, Reaksi-reaksi (Terjemahan)*. Yogyakarta: Gadjah Mada Univ. Peress.
- Food And Agriculture Organization Of The United Nations. (2018). *Top 10 Countries Production Of Coconut*. Food and Agriculture Organization Of The United Nations. Dipetik Juli 19, 2020, dari [http://www.fao.org/faostat/en/#rankings/countries\\_by\\_commodity](http://www.fao.org/faostat/en/#rankings/countries_by_commodity)

- Gamstedt E. K, & Almgren, K. (2007). Natural Fibre Composites - with Special Emphasis on Effects of the Interface Between Cellulosic Fibres and Polymers. *Proceedings of the 28th Ris International Symposium on Materials Science: Interface Design of Polymer Matrix Composites - Mechanics, Chemistry, Modelling and Manufacturing, Ris National Laboratory, Roskilde*.
- Gonzalo de Gonzalo, Dana I. Colpa, Mohamed H. M. Habib, & Marco W. Fraaije. (2016). Bacterial enzymes involved in lignin degradation. *Journal Of Biotechnology*, 110-119.
- Gorska E B, Jankiewicz U, Dobrzynski J, Galazka A, Sitarek M, Gozdowski, & Kowalczyk. (2014). Production of ligninolytic enzymes by cultures of white rot fungi. *Pol J Microbiol 63 (4)*, 461-5.
- Heri, J, & Syakur A. (2012). Studi arus bocor permukaan isolasi resin epoksi silane dengan variasi pengisi pasir silika (dengan polutan pantai). 14 (1), pp. 20-37.
- Jin, F, Li, X, & Park, S. (2015). Journal of industrial and engineering chemistry synthesis and application of epoxy resins : A review. *The Korean society of industrial and engineering chemistry*.
- Krik, R. E, & Othmer, D. F. (1952). Encyclopedia of chemical technology. 2nd ed, John Wiley and Sons Inc, New York.
- Liu D, Song, J, Anderson, D.P, Chang, & Hua, Y. (2012). Bamboo fiber and its reinforced composites : structure and properties. *Cellulose 19*, 1449-1480. Diambil kembali dari <https://doi.org/10.1007/s10570-012-9741-1>
- M. Tien, & T. K. Kirk. (1984). lignin degrading enzyme from Phanerochaete chrysosporium : purification, characterization and catalycal properties of a unique H<sub>2</sub>O<sub>2</sub>- requirung oxygenease. *Practice natural academy sciense USA, Vol. 81*, 2280-2284.
- Marra, AA. (1992). *Technology of wood bonding : principle in practise*. New York: Van Nostrand Reinhold.
- Matthews, F.L, & Rawlings, RD. (1993). Composite material engineering and science. *Imperial college of science, technology and medicine, London, UK*.
- Mikel, PG. (1996). Composite material fundamental of modern manu-facturing material, processes and system. *Prentice Hall*.
- Mwaikambo LY, & Ansell MP. (1999). The effect of chemical treatment on the properties of hemp, sisal, juta, and kapok fibres for composite reinforcement. *2nd international wood and natural fibre composites symposium*, 12.1-12.16.

- Mwaikambo, L.Y., & Ansell, M.P. (2006). Mechanical properties of alkali treated plant fibres and their potential as reinforcement materials II. *Sisal fibres. J. Mater. Sci.* 41, 2497-2508. Diambil kembali dari <https://doi.org/10.1007/s10853-006-5075-4>
- Rahmaniah O, Pahlevi R, & Mendila CD. (2011). Structure features changes of galah grass (*Saccharum Spontaneum Linn*) by liquid hot water pretreatment. *J Of Biobased Materials and Bioenergy*, 5 : 1-9.
- Raymod, C. (2010). *Chemistry 10th edition*. New York: Thomas D. Timp.
- Rout J, Misra M., Tripathy S.S, Nayak S.K., & Mohanty A.K. (2001). The Influence of Fibre Treatment on the Performance Of Coir-Polyester Composites. *Composite Scienca and Technology vol. 61*, pp. 13023-1310.
- Saleh, A., M.D, M, Pakpahan, & Angelina, N. (2009). Pengaruh konsentrasi pelarut, temperatur dan waktu pemasakan pada pembuatan pulp dari serabut kelapa muda. *Jurnal teknik kimia, volume 16*, 35-44.
- Sanchez C. (2010). Cultivation of pleurotus ostreatus and other edible mushrooms. *Appl microbiol biotechnol 85*, 1321-1337.
- Sasikumar V, Priya V, C. Shiv Shankar, & D. Sathiah Sekar. (2014). Isolation and preliminary screening of lignin degrading microbes (On line). *Journal of academia and industrial research*, 3 : 291-294.
- Sen S K, Raut S, Bandyopadhyay P, & Raut S. (2016). Fungal decolouration and degradation of azo dyes : a review. *Fungal biology reviews* 30 (3), 112-133.
- Sigit, A. M. (2008). *Pola aktivitas enzim lignolitik jamur tiram pleurotus ostreatus pada media sludge industri kertas, [Skripsi]*. Bogor: Program studi biokimia, Fakultas Matematika dan Ilmu Pengetahuan Alam, Institut Pertanian Bogor.
- Sisworo, SJ. (2009). Pengaruh penggunaan serat kulit rotan sebagai penguat pada komposit polimer dengan matriks polyester yucalac 157 terhadap kekuatan tarik dan D tekuk. *J. Teknik*, 30:3-10.
- Sjostrom, E. (1995). Kimia kayu : dasar - dasar dan penggunaannya Edisi 2. *Gadjah Mada University Press, Yogyakarta*, 390 hlm.
- Sri Chandrabakty. (2011). Pengaruh panjang serat tertanam terhadap kekuatan geser interfacial komposit serat batang melinjo-matriks resin epoxy. *Journal mekanikal*, 1-9.
- Sukadarti, S., Kholisoh, S., Prasetyo, H., Santoso, W., & Mursini, T. (2010). Produksi Gula Dari Sabut Kelapa Menggunakan Jamur Trichoroderma

reesei. *Prosiding Seminar Nasional Teknik Kimia, Universitas Veteran*, ISSN1693-4393.

Sun, Z. et al. (2019). Enhancing the mechanical and thermal properties of epoxy resin via blending with thermoplastic polysulfone.

Taj S., M. A. (2007). Natural Fiber-Reinforced Polymer Composites. *Proc. Pakistan Acad. Sci. Vol 44*, pp. 129-144.

Tri Retno, D.L, Nana Mulyana, Nurhasni, & Uswatun Hasanah. (2016). Pengaruh radiasi sinar gamma terhadap kemampuan degradasi lignin phanerochaete chrysosporium dan ganoderma lucidum. *Jurnal sains dan teknologi nuklir Indonesia, Vol. 17*, 21-36.

Wardhani, I. S. (2004). Distribution of Chemical Compounds of Coconut Cood (Cocos nucifer L.). *Jurnal Ilmu dan Teknologi Kayu Tropis, vol. 2, no.1*.

Xie, X. et al. (2018). Research progress of epoxy resin concrete.

Yuan, Y., & Lee, T.R. (2013). Contact angle and wetting properties, in : Bracco, G., Holst, B. (Eds.), Surface Science Techniques. . *Springer Berlin Heidelberg, Berlin, Heidelberg*, 3-34.

# LAMPIRAN



**LABORATORIUM PRODUKTIVITAS DAN KUALITAS PERAIRAN  
FAKULTAS ILMU KELAUTAN DAN PERIKANAN  
UNIVERSITAS HASANUDDIN**

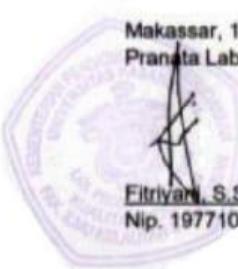
Jl. Perintis Kemerdekaan, KM 10 Tamalanrea, Makassar, Indonesia, 90245

Telp./ Fax. +62-0411-586025, email : fikp@unhas.ac.id, website : <http://fikp.unhas.ac.id>

No	: 05.UM/Lab.Air/IV/2021
Pemilik Sampel	: Try Putra (Teknik Mesin UNHAS)
Tanggal Masuk	: 8 April 2021
Jumlah Sampel	: 10
Jenis Sampel	: Sabut Kelapa
Asal Sampel	: Makassar
Kegiatan	: Penelitian S1

**Data Hasil Analisis**

No	Kode Sampel	Parameter Uji
		Lignin (%)
1	Normal	25,23
2	A	19,87
3	B	19,62
4	C	19,58
5	D	19,68
6	E	19,31
7	F	19,12
8	G	19,17
9	H	18,64
10	I	18,39

Makassar, 13 April 2021  
Pranata Lab. Pendidikan (PLP)  
  
Fitriyani, S.Si  
Nip. 19771012 200112 2 001

Gambar Data Hasil Pengujian Kadar Lignin



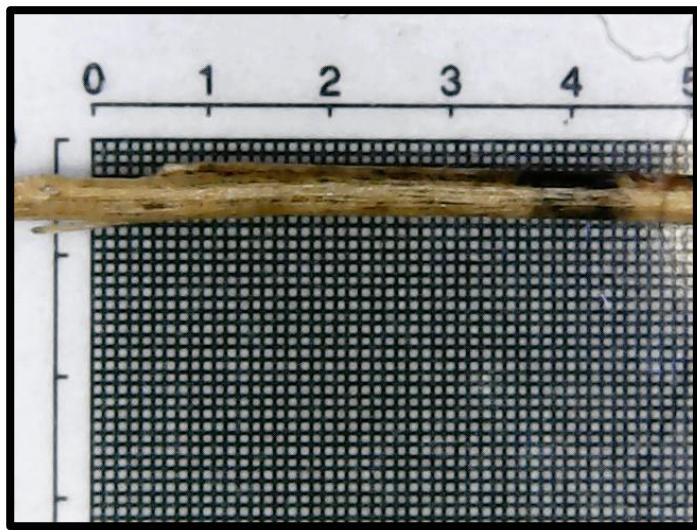
Gambar Sabut kelapa 5 gram



Gambar Jamur yang tumbuh pada baglog



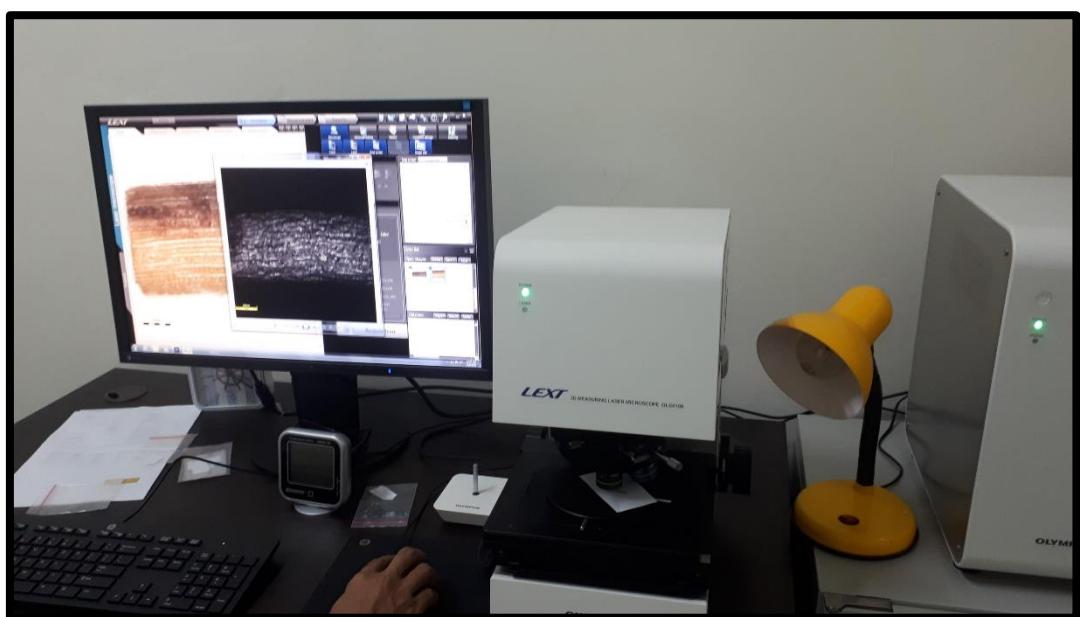
Gambar Baglog



Gambar Proses pengukuran diameter serat



Gambar specimen uji morfologi



Gambar Proses uji morfologi