

DAFTAR PUSTAKA

- Abdel Mohdy, F.A., Abdel-Halim, E.S., Abu-Ayana, Y.M., dan El-Sawy, S.M. 2008. *Rice Straw as A New Resource for Some Beneficial Uses*. Carbohydrate Polymers. 75: 44-51
- Abdul Khalil, H.P.S., Siti Alwani, M., Ridzuan, M., Kamarudin, H. dan Khairul, A. 2008. Chemical Composition, Morphological Characteristics, and Cell Wall Structure of Malaysian Oil Palm Fibers. *Polymer-Plastics Technology and Engineering* 47 : 273-280.
- Achmadi, E. R. 2016. Sintesis dan Karakterisasi *Hydroxy Propyl Cellulose* (HPC) dari Biji Salak (*Salacca edulis* Reinw) Pondoh Super. Tesis. FTP UGM.
- Adel, A.M., El-Wahab, Z.H.A., Ibrahim, A.A., dan Al Shemy, M.T. 2010. Characterization of Microcrystalline Cellulose Prepared from Lignocellulosic Materials. Part I. Acid Catalyzed Hydrolysis. *Bioresources Technology* 101 : 4446-4455.
- Adimarta, T. 2016. Isolasi dan Karakterisasi Selulosa dari Tandan Kosong Kelapa Sawit Dengan Menggunakan Campuran NaOH dan NaOCl. Tesis. FMIPA : UGM. Yogyakarta.
- Adinugraha, M. P., Marseno, D. W. dan Haryadi. 2005. Synthesis and Characterization of Sodium Carboxymethylcellulose from Cavendish Banana Pseudo Stem (*Musa cavendishii* LAMBERT). *Carbohydrate Polymers*. 62: 164-169.
- Alemdar, A dan Sain, M. 2008 Isolation and Characterization Of Nanofibers From Agricultural Residues, Wheat Straw and Soy Hulls. *Bioresources Technology*. 99 : 1664-1671
- Andoko, Agus dan Widodoro. 2013. Berkebun Kelapa Sawit si Emas Cair. Agro Media Pustaka. Jakarta.
- Anonim. 2013. Statistik Perkebunan Indonesia 2013-2015 : Kelapa sawit. Direktorat Jenderal Perkebunan. Jakarta.
- Ambriz, S.L.R., Hernandes, J.J.L., Acevedo, E.A., Tovar, J., dan Perez, L.A.B. 2008. Characterization of a fibre-rich powder prepared by liquefaction of unripe banana flour. *Journal of Food Chemistry* 107, pp. 1515-1521.
- Aurelia, C. 2016. Pengaruh Konsentrasi Sodium Hidroksida dan Sodium Hipoklorit terhadap Sifat Fisik dan Kimia Selulosa dari Kulit Koro Pedang Putih (*Canavalia ensiformis*). *Skripsi*. Yogyakarta : FTP UGM.

- Ballesteros, I, Olivia, J.M., Navarro, A.A., Gonzales, A., Carrasco J., dan Ballesteros, M. 2000. Effect of Chip Size On *Steam explosion* Pretreatment of Softwood. *Journal Applied Biochemistry and Biotechnology* Vol. 84 Issue 1-9 : 97-110.
- Barai, B. K., Singhal, R. S. dan Kulkarni, P. R. 1997. Optimization of A Process for Preparing Carboxymethyl Cellulosa from Water Hyacinth (*Eichornia crassipes*). *Carbohydrate Polymers*. 32: 229-231.
- Bicu dan Mustata. 2013. Optimization of Isolation of Cellulose from orange peel using Sodium Hydroxide and Chelating Agents. <http://dx.doi.org/10.1016/j.carbpol.2013.06.009>.
- Bismarck, A., Mishra, S., dan Lampke, T., 2005. Plant Fibers as Reinforcement for Green Composites. In: Mohanty, A.K., Misra, M., and Drzal, L.T. (Ed.), *Natural Fibers, Biopolymer, and Biocomposites*. CRC Press Taylor and Francis group, Boca Raton.
- Brownell, H.H. dan Sadler, J.N. 1986. Steam Pretreatment of Lignocellulosic Material for Enhanced Enzymatic Hydrolysis. *Biotechnology and Bioengineering* XXIX : 228-235.
- Browning, B.L. 1987. *Methods of Wood Chemistry*. Vol 2. Interscience Publishers, John Wiley dan Sons, USA. Pp. 387-427.
- Carvalho, F., Esteves, M.P., Parajo, J.C., Pereira, H., dan Girio, F.M. 2004. Production of Polysaccharides by Autohydrolysis of Brewery's Spent Grain. *Bioresources Technology* 91 (1) : 93-100
- Carvalho, F., Duarte, L. C., & Girio, F. M. 2008. Hemicellulose biorefineries: A review on biomass pretreatment. *Journal of Scientific and Industrial Research* 67 : 849–864.
- Carvalho, F., Duarte, S.C., Girio, F. Dan Moniz, P. 2016. Hydrothermal/Liquid Hot Water Pretreatment (Autohydrolysis) : A Multipurpose Process for Biomass Upgrading dalam Biomass Fractionation Technologies for a Lignocellulosic Feedstock Based Biorefinery. 315-347.
- Chen, I., Hong, F., Yang, X.-X., dan Han, S.-F. 2013. Biotransformation of Wheat Straw to Bacterial Cellulose and Its Mechanism. *Bioresources Technology* 135 : 464-468.
- Chen, Hongzhang dan Wenjie Sui. 2015. Water Transfer in *Steam explosion Process on Corn Stalk*. *Journal of Industrial Crops and Products* Vol 76 : 977-986.

- Chiaramonte, D., Prussi, M., Ferrero, S., Oriani, L., Ottonello, P., Torre, P., Cherchi, F., 2012. Review of Pretreatment Processes for Lignocellulosic Ethanol Production, and Development of An Innovative Method. *Biomass Bioenergy* 46, 25–35.
- Ciolacu, D, Ciolacu, F., dan Popa, V.I. 2010. Amorphous Cellulose – Structure And Characterization. *Cellulose Chem. Technol.*, 45 (1-2), 13-21.
- Cui, L., Liu, Z., Si, C., Hui, L., Kang, N. dan Zhao, T. 2012. Influence of Steam Explosion on The Composition and Structure Wheat Straw. *Journal of Bioresources* 7 (3) : 4202-4213.
- Datta, R. 1981. Acidogenic Fermentation of Lignocellulose. *Biotechnology and Bioengineering*. 23 : 2167-2170.
- Durgin, A.G. 1957. The Alkaline Process. In : Calkin, J.B. and G.S. Witham, Sr (editor) *Modern Pulp and Paper Making*. 3ed. Reinhold Publishing Corp., New York, USA, pp. 121-156.
- Duff, S dan Murray, W. 1996. Bioconversion of Forest Products Industry Waste Cellulosics to fuel ethanol: a review. *Bioresource Technol* 55:1–33
- Fan, S., Zhang, P., Li, F., Jin, S., Wang, S., dan Zhou S. 2016. A Review of Lignocellulose Change During Hydrothermal Pretreatment for Bioenergi Production. *Current Organic Chemistry* 20 : 1-11.
- Fengel, D. dan Wegener, G. 1995. Kayu: Kimia Ultrastruktur, Reaksi-Reaksi. Terjemahan Hardjono Sastrohamidjojo dan Soenardi Prawirohatmodjo. Yogyakarta : Gadjah Mada University Press.
- Ferdiansyah, M. K. 2013. Isolasi Selulosa dan Sintesis *Carboxy Methyl Cellulose* (CMC) dari pelepah Kelapa sawit. Tesis. Yogyakarta : FTP UGM.
- Fazriani, A. 2016. Optimasi Sintesis dan Karakterisasi Metil Selulosa dari Kulit Biji Kakao (*Theobroma Cacao* L.). Tesis. Yogyakarta : FTP UGM.
- Giligan, J.J. 1974. *The Organic Chemical Industry. Dalam J.L Pyle. Chemistry and the Thenological Backlash*. Prentice-Hall, Inc. New Jersey.
- Gunam, I.B.W., N. Wartini, A.A.M.D. Anggreni, dan P.M. Suparyana. 2011. "Delignifikasi Ampas Tebu dengan Larutan Natrium Hidroksida Sebelum Proses Sakarifikasi Secara Enzimatik Menggunakan Enzim Selulase Kasar dari *Aspergillus niger* FNU 6018." *LIPi Press. Vol:34* (L) 24-32.

- Harmsen, P.F.H., Huijgen, W.J.J., Berudes Lopez, L.M., dan Bakker, R.R.C. 2010. Literature Review of Physical and Chemical Pretreatment Process for Lignocellulosic Biomass. Energy Research Center of Netherlands.
- Harni, M.R., Iryani, A., dan Affandi, A. 2015. Pemanfaatan Serbuk Gergaji Jati (*Tectona grandis* L.f.) sebagai Adsorbent Logam Timbal (Pb). E-journal diakses dari <https://www.researchgate.net/publication/316463237>.
- Hermiati, E., Mangunwidjaya, D., Sunarti, T., dan Prasetyo, B. 2010. Pemanfaatan Biomassa Lignoselulosa Ampas Tebu untuk Produksi Bioetanol. Jurnal Litbang Pertanian 29 (4) : 121-130.
- Hidayat, M. R. 2013. Teknologi Pretreatment Bahan Lignoselulosa Dalam Proses Produksi Bioethanol. Biopropal Industri 4,1 : 33-48.
- Hidayati, S. 1999. Pemutihan Pulp Ampas Tebu untuk Bahan Dasar Pembuatan CMC. Tesis. Yogyakarta. FTP : UGM.
- Hidayati, S., Rahayu, K., dan Haryadi. 2000. Pemutihan Pulp Ampas Tebu untuk Bahan Dasar Pembuatan CMC. Agro Sains XIII (1) : 59-77.
- Holtzapple, M. T. 2003. Hemicelluloses. In Encyclopedia of Food Sciences and Nutrition. pp : 3060-3071. Academic Press.
- <https://adiducation.com/manfaat-pembuangan-bunga-pada-kelapa-sawit-kastrasi/#Wo2DEogxXIU>
- Hutomo, G.S.; Marseno, D.W.; Anggrahini, S. dan Supriyanto. 2012. Ekstraksi Selulosa dari *Pod Husk* Kakao Menggunakan Sodium Hidroksida. *Agritech*.32 (3): 223-229.
- Ibrahim, M.M, Agblevor, F.A., dan El-Zawawy W.K. 2010. Isolation and Characterization of Cellulose and Lignin From Steam Exploded Lignocellulosic Biomass. *Journal of BioResources* 5(1) : 397- 418.
- Intara, Yazid Ismi dan Dyah P, Banun. 2012. Studi Sifat Fisik dan Mekanik Parenkhim Pelepah Daun Kelapa sawit Untuk Pemanfaatan Sebagai Bahan Anyaman. Jurnal Agrotek 6 (1) : 36-44.
- Jamilah. 2009. Kualitas Papan Komposit dari Limbah Batang Kelapa sawit (*Elaeis guineensis* Jacq) dan Polyethilen (PE) Daur Ulang. Skripsi.
- Jaquet, N, Maniet G. Vanderghem, C. Delvine F., dan Richel A. 2015. Application of *Steam explosion* As Pretreatment On Lignocellulosic Material : A Review. Ind. Eng. Che. Res.2015,54, 2593-2598.

- Jonoobi, M., Khazaeian, A., Tahir, P.M., Azry, S.S. dan Oksman, K.. 2011. Characteristics of cellulose nanofibers isolated from rubberwood and empty fruit bunches of oil palm using chemo-mechanical process. *Cellulose*, 18: 1085-1095.
- Kesuma, R.F. *et.al.* 2013. Karakteristik pori adsorben Berbahan baku Kaolin Capkala dan Zeolit Dealiminasi. Pontianak. Universitas Tanjung Pura.
- Kun, W., Fang, W., Jian-Xin, J., Li-wei, Z., dan Hong-zhuai, F. 2007. Structure, Composition and Enzymatic Hydrolysis of Steam-exploded Lespedeza Stalk. *For Stud. China* 9 (2) : 137-141.
- Kuo, C. dan Lee, C. 2008. Enhanced Enzymatic Hydrolysis of Sugarcane Bagasse by N-methylmorpholine-N-oxide Pretreatment. *Journal of Bioresources Technology*. 866-871.
- Kuys, C., dan Abbott, J. 1996. Bleaching of Mechanical Pulps with Sodium bisulfite. *Appita journal* 49 (4). *TAPPI journal* 19 : 347-352.
- Ladisch, M.R., 1989. Hydrolysis. In: Hall, C.W., Kitani, O. (Eds.), *Biomass Hand Book*. Gordon and Breach, London, pp. 434–451.
- Lee, H.V., Hamid, S.B.A., dan Zain, S.K. 2014. Conversion of Lignocellulosic Biomass to Nanocellulose: Structure and Chemical Process. *The Scientific World Journal* Volume 2014. Article ID 631013. 20 pages.
- Lehninger, A.L. 1993. *Dasar-dasar biokimia*. Jilid 1, 2, 3. Erlangga, Jakarta.
- Lii, C., Tomasik, P., Zaleska, H., Liauw, H. dan Lai, V.M.F. 2002. Carboxymethylcellulose – Gelatin Complexes. *Carbohydrate Polymers*. 50 : 19-26.
- Liu, W., Yuan, Z.R., Mao, C.B., Hou, Q.X., Li, K.C., 2012. Extracting hemicelluloses prior to aspen chemi-thermomechanical pulping: effects of pre-extraction on pulp properties. *Carbohydr. Polym.* 87, 322–327.
- Liu, Z., Qin, L., Pang, F., Jin, M., Li, B., Kang, Y., Dale, B.E., dan Yuan, Y. 2013. Effects of Biomass Particle Size On Steam Explosion Pretreatment Performance For Improving The Enzyme Digestibility of Corn Stover. *Industrial Crops and Products* 44 : 176– 184.
- Lund, K., Sjöström, K dan Brelid, H. 2012. Alkali Extraction of Kraft Pulp Fibers: Influence on Fiber and Fluff Pulp Properties. *Journal of Engineered Fibers and Fabrics* 7 : 30-39.

- Menon V dan Rao M. 2012. Trends in bioconversion of lignocellulose: Biofuels, platform chemicals & biorefinery concept. *Progress in Energi and Combustion Science* 8(4): 522–550.
- Menakshi, P., Noorjahan, S.E., Rajini, R., Venkatesvalu, U., Rose, C., dan Sastry, T.P. 2002. Mechanical and Microstructure Study On The modification of Cellulose Acetat (CA) Film By Bleding With Polystyren. *Buletin Material Science* 25 (1) : 25-29.
- Mussatto, S.I., dan J.A. Teixeira. 2010. "Lignocellulose as Raw Material in Fermentation Process." *Technology and Education Topics in Applied Microbiology and Microbial Biotechnology* 897-907.
- Mutepe, R.D. 2012. Ethanol Production From Sweet Sorghum. Dissertation. North West University.
- Ohgren, K., Bura., R., Saddler., dan Zacchi, G. 2007. Effect of Hemicellulose and Lignin Removal on Enzymatic Hydrolysis of Steam Pretreated Corn Stover. *Bioresources Technology* 98 : 2503-2510.
- Overend, R.P dan Chornet, E. 1987. Fractionation of Lignocellulosic By Steam Aqueous Steam Explosion. *Phil.Trans.R.Soc.Land A* 321 :532-536.
- Olesen, P., Plackett, D., 1999. Perspectives on the Performance of Natural Plant Fibres. In: *Natural Fibres Performance Forum*, Copenhagen. p. Copenhagen 27th-28th May 1999.
- Padil. 2010. Proses Pembuatan Nitroselulosa Berbahan Baku Biomassa Sawit, Pengembangan dan Keberlanjutan Energi di Indonesia. ISBN 978-602-96729-0-9, 2A03.
- Pujakaroni, A.S. 2014. Isolasi Selulosa dan Sintesis Sodium Karboksilmetil Selulosa dari Sabut Kelapa Sawit. *Tesis*. Program pasca sarjana UGM. Yogyakarta.
- Pushpamalar, V., Langford, S.J., Ahmad, M. dan Lim, Y.Y. 2006. Optimization of Reaction Conditions for Preparing Carboxymethyl Cellulose from Sago Waste. *Carbohydrate Polymers*. 64 : 312-318.
- Rachmaniah, O., Krisnanta W, A. dan Ricardo, D. 2009. Acid Hydrolysis Perlakuan pendahuluan of Bagasse Lignocellulosic Material for Bioethanol Production. *ITS* : Surabaya.
- Ramos, L. P. 2003. The Chemistry Involved in The Steam Treatment of Lignocellulosic Materials. *Quin Nova* 26 (6) : 863-871.

- Risza, Suyatno. 1994. Kelapa Sawit (Upaya Peningkatan Produktivitas). Kanisius. Yogyakarta.
- Rossel, C.M., Santos, E., dan Collar, C. 2009. Physico-chemical Properties of Commercial Fibers from Different Sources : A Comparative Approach. *Journal of Food Research International*. 42: 176-184.
- Rowell, Roger M. 2012. *Handbook of Wood Chemistry and Wood Composites*. London: CRC Press.
- Ruiz, H.A., Rodriguez-Jasso, R.M., Fernandes, B.D., Vicente, A.A. dan Teixeira, J.A. 2013. Hydrothermal Processing as an alternative for upgrading agriculture residues and marine biomass according to the Biorefinery Concept : A review. *Renewable and Sustainable Reviews* 21 : 35-51.
- Sahmadi, 2006. Pengaruh Intensitas pencahayaan Terhadap Arah Pertumbuhan Kelapa Sawit. Departemen Pertanian Fakultas Pertanian Universitas Sumatera Utara Medan.
- Saka, S., Munusamy, M.V., Shibata, M., Tono, Y. Dan Miyafugi, H. 2008. Chemical Constituents of The Different Anatomical Parts of The Oil Palm (*Elaeis guineensis* Jacq) for Their Sustainable Utilization. Semonar Proceeding Natural Resources and Energy Environmental 24-25 November 2008 Halaman 19-24.
- Sari, T. A. 2017. Optimasi Sintesis Dan Karakterisasi Metil Selulosa Dari Kulit Koro Pedang Putih (*Canavalia ensiformis* L. (DC)). Tesis. Yogyakarta : FTP UGM.
- Satriani, I. 2017. *Response Surface Methodology* (RSM) pada Sintesis *Carboxymethyl Cellulose* Dari Kulit Koro Pedang Putih (*Canavalia ensiformis* L.) : Variasi Konsentrasi NaOH Dan NaMCA. Skripsi. Yogyakarta. FTP : UGM.
- Sebestyen, Z., Jakab, E., May, Z., Sipos, B dan Reczey, K. 2013. Thermal Behaviour of Native, Washed and Steam exploded Lignocellulosic Biomass Samples. *Journal of Analytical and Applied Pyrolysis* (2013) : 61-71.
- Seidel, C.M., Pielhop, T., Studer, M.H. dan Von Rohr, P.R. 2017. The influence of The Explosive Decompression in steam Explosion Pretreatment On The Enzymatic Digestibility of Different Biomasses. *Journal of Royal Society of Chemistry. Faraday Discussion*.
- Simatupang, H.M., Mohd Noor, M.A. dan Harun Bin Sarip. 1995. *Microcrystalline Cellulose* (MCC) dari Batang Kelapa Sawit dengan Menggunakan Ledakan Steam (*Steam explosion*). Makalah Simposium Nasional Polimer 1995. Jakarta.

- Simatupang, H., Nata, A. Dan Herlina, N. 2012. Studi Isolasi dan Rendemen Lignin dari Tandan Kosong Kelapa sawit (TKKS). *Jurnal Teknik Kimia USU* 1 (1) : 20-24.
- Sjostrom, E. 1981. *Wood Chemistry: Fundamentals and Application*. Academic Press, New York
- Sjöström, E. 1998. *Kimia Kayu. Dasar-dasar dan Penggunaan*. Terjemahan Hardjono Sastrohamidjojo dan Soenardi Prawirohatmodjo. Yogyakarta : Gadjah Mada Universty Press.
- Sudiani, Y, Waluyo, J., Riandy, A.P., Primandaru, P. Dan Novia. 2015. Pengaruh dan Waktu Tinggal pada Perlakuan Awal Bagas Sorgum dengan Metode Steam Explosion. *Jurnal Teknik Kimia* 4 (21) : 47-56.
- Sun, Y.; Cheng, J. (2002). Hydrolysis of Lignocellulosic Materials for Ethanol Production : A Review. *Bioresource technology* 83 (1) : 1-11.
- Sun, X.F., Xu, F., Sun, R.C., Fowler, P., dan Baird, M.S. 2005. Characteristics of Degraded Cellulose Obtained From Steam-exploded Wheat Straw. *Carbohydrate Research* 340 : 97-106.
- Sun, T.S., Wang, K., Yang, G.H., Yang, H.Y., dan Xu, F. 2014. Hydrothermal treatment and enzymatic Saccharification of Corn Cob. *Bioresources* 9 (2) : 3000-3013.
- Sumada, K., Tamara, P.E., dan Alkani, F. 2011. Isolation Study Of A Cellulose From Waste Plant Stem *Manihot esculenta* Crantz. *Jurnal Teknik Kimia UPN Veteran Jawa Timur* 5 (2) : 434-438.
- Susana. 2011. Ekstrasi Selulosa dari Limbah Mahkota Nanas. *Jurnal Vokasi* 7 (1) : 87-94.
- Suyanto, Heru. 2016. Review Serat : Komposisi, Struktur dan Sifat Mekanis. <https://www.researchgate.net/publication/309421383>. Diakses tanggal 16 Oktober 2017.
- Syafii, W. 2000. Sifat Pulp Daun Kayu Lebar dengan Proses Organosolv. *Jurnal Teknik Industri Pertanian*.
- Togrul, H dan Arslan, N. 2003. Flow Properties of Sugar Beet Pulp Cellulose and Intrinsic Viscosity – Molecular Weight Relationship. *Carbohydrate Polymers Journal*. 54 : 63-71.

- Umiyasih, Uum dan Anggraeny, Yeny Nur. 2003. Keterpaduan Sistem Usaha Perkebunan Dengan Ternak: Tinjauan Tentang Ketersediaan Hijauan Pakan Untuk Sapi Potong di Kawasan Perkebunan Kelapa Sawit. Lokakarya Sistem Integrasi Kelapa Sawit-Sapi. <http://peternakan.litbang.pertanian.go.id/fullteks/lokakarya/probklu0316.pdf?secure=1>. Diakses tanggal 8 April 2016.
- Valencia. N.V., Perez, E.G., Acevedo, E.A., Tovar, J., Ruales, J., dan Perez, L.A.B., (2007), Fibre Concentrate from Mango Fruit : Characterization, Associated Antioxidant Capacity and Application as a Bakery Product Ingredient. *Journal of LWT* 40 : 722-729.
- Ventola, S.C. 2013. Isolasi Selulosa dan Sintesis Carboxymethyl Cellulose dari Tangkai Enceng Gondok (*Eichornia crassipes* Solm). Tesis. Yogyakarta : FTP UGM.
- Wahyuningtyas, A. 2016. Sintesis dan Karakterisasi Methyl Cellulose (MC) dari Biji Salak (*Salacca edulis* Reinw) Pondoh Super. Tesis. Fakultas Teknologi Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Witayakran, S., dan Tanpichai, S. 2016. Properties of Cellulose Microfibers Extracted from Pineapple Leaves by Steam Explosion. *Advanced Materials Research*. Trans Tech Publication. Pp : 231-235.
- Wustenberg, T. 2012. Cellulose and Cellulose Derivatives in the Food Industry: Fundamentals dan Applications. Wiley-VCH Verlag GmbH dan Co KGaA. Weinheim. Germany.
- Xiao, X., Bian, J., Peng, X.P., Xu, H., Xiao, B., dan Sun, R.C. 2013. Autohydrolysis of Bamboo (*Dendrocalamus giganteus* Munro) culm for The production of xylo-oligosaccharides. *Bioresources Technology* 117 : 7-12.
- Yu, P., Block, H., Niu, Z., dan Doiron, K. 2007. Rapid Characterization of Molecular Chemistry Nutrient Make-up and Microlocation of Internal Seed tissue. *Journal of Synchrontron Radiation* 14 : 382-390.
- Yu, Zhengdao., Bailiang Zhang, Fuqiang Yu, Guizhuan Xu, Andong Song. 2012. A Real Explosion : The Requirement of *Steam explosion Pretreatment*. *Journal Bioresource Technology* 121 : 335 – 341.
- Zhang, Y. 2010. Hydrothermal Liquefaction to Convert Biomass into Crude Oil in Biofuels from Agricultural from Agricultural Wastes and By-products. Blackwell Publishing.
- Zhang, S.Y., C.G. Wang, B.H. Fei, Y. Yu, H.T. Cheng, dan G.L. Tian. 2013. Mechanical Function of Lignin and Hemicelluloses in Wood Cell Wall

Revealed with Microtension of Single Wood Fiber. *BioResources* 8(2) 2376-2385.

Zhou, C. dan Wu, Q. 2012. Recent Development in Applications of Cellulose Nanocrystals for Advanced Polymer-Based Nanocomposites by Novel Fabrication Strategies. Intech. Croatia.

Zhu, J.Y., Pan, X.J., Wang, G.S., Gleisner, R., 2009. Sulfite pretreatment for robust enzymatic saccharification of spruce and red pine. *Bioresour. Technol.* 100, 2411–2418.