

## DAFTAR PUSTAKA

- Ambarsari I., 2014, Studi Desorpsi Urea pada Humin Sintetis, *Skripsi*, Departemen Kimia FMIPA UGM, Yogyakarta.
- Anonim, 2016, Nilai Impor Pangan (Angka Sementara Tahun 2016), *Berita Resmi Statistika*, Badan Pusat Statistik.
- Anonim, 2015, Data Penduduk Indonesia, *Berita Resmi Statistika*, Badan Pusat Statistik.
- Anonim, 2002, Keputusan Gubernur Jawa Timur Nomor 45 Tahun 2002 Tentang Baku Mutu Limbah Cair Industri Dan Kegiatan Usaha Lainnya, Badan Pengendalian Lingkungan Hidup Kota Surabaya.
- Andreux, F., 1996, *Humus in World Soils, Humic substance in terrestrial ecosystem*, Elsevier, Amsterdam.
- Antonietti, M., 2006, *Magic Coal from the Steam Cooker*, Departement of Colloid Chemistry, Max Plank Institute of Colloids and Interface, Postdam. Pers.comm., 12-22.
- Anwar, E. K. dan Suganda, H., 2002, *Pupuk Limbah Industri: Pupuk Organik dan Pupuk Hayati*, Badan Penelitian dan Pengembangan Pertanian, Departemen Pertanian.
- Brown Jr., E., Henrich, V., and Cassey, H., 1999, Metal Oxide Suraces and Their Interaction with Aqueous Solution, *Chem. Rev.*, 99,77–174.
- Calderon, F.J., McCarty, G.W., and Reeves III, J.B., 2005, Pyrolysis-MS and FT–IR Analysis of Fresh and Decomposed Dairy Manure, *J. Anal. Appl. Pyrolysis*, 76, 14–23.
- Cassman, K.G., Dobermann, A.R., and Walters, D.T., 2002, Agroecosystems Nitrogen-uses Efficiency and Nitrogen Management, *Agro Holti-Faculty Publs.*, 31(2), 132-140.
- Chia, C.H., Sigh, B.P., Joseph, S., Graber,E.R., and Munroe,P., 2014, Characterization of An Enriched Biochar, *J. Anal. Appl Pyro.*, 108, 26-34.
- Child, M., 2014, Industrial-scale hydrothermal carbonization of waste sludge materials for fuel production, *Thesis*, Lappeenranta University of Technology, Finlandia.
- Firmantianingrum, E.J., 2014, Humin Sintetis sebagai Penangkap dan Penyimpan Karbon dan Nitrogen serta Sebagai Solusi Pengurangan Emisi Gas Rumah

Kaca Sektor Pertanian, *Skripsi*, Departemen Kimia FMIPA UGM, Yogyakarta.

- Funke, A., and Ziegler, F., 2010, Hydrothermal carbonization of biomass: A summary and discussion of chemical mechanisms for process engineering, *Biofpr. Journal*, 4(2), 160-177.
- Hayes, M.H.B., Swift, R.S., Byrne, C.M., Song, G., and Simpson, A.J., 2010, Humin: The Simplest of The Humic Fractions, *International Humic Substances Society (IHSS) conference*, 27 June - 2 July 2010, Tenerife, Spain.
- Hayes, M. H. B., Graham, C. L., 2000, Procedures for the Isolation and Fractionation of Humic Substances, *International Humic Substances Society (IHSS) conference*, 24-28 July 2000, Toulouse, France.
- He, C., Giannis, A., and Wang, J., 2013, Conversion of sewage sludge to clean solid fuel using hydrothermal carbonization: Hydrochar fuel characteristics and combustion behavior, *Appl. Energy*, 111, 257-266.
- Hoekman, S. K., Broch, A., and Robbins, C., 2011, Hydrothermal carbonization (HTC) of lignocellulosic biomass. *Energy and Fuels*, 25(4), 1802-1810.
- Jindo, K., Mizumoto, H., Sawada, Y., Sanchez-Monodero, M.A., and Sonoki, T., 2014, Physical and Chemical Characterization of Biochar Derived from Different Agricultural Residues, *Biogeosciences*, 11, 6613-6621.
- Joseph, S., Lehmann, J., Amonette, J., Camps, M., Munroe, P., Muller, P., Yun, Y., and Chia, C., 2011, The Nanostructure of Fresh and Aged Biochar and its Potential Significance for Changes in Soil Properties and Plant Nutrient Uptake, *Towards Human and Environmental Symbiosis using Biochar Asia Pacific Biochar Conference*, 15-18 September 2011, Kyoto.
- Kennedy, L.J., Vijaya, J.J., and Sekaran, G., 2005, Electrical conductivity study of porous carbon composite derived from rice husk, *Mater. Chem. Phys.*, 91, 471-476.
- Kuncaka, A., 2014, *Metode Memproduksi Pupuk Organik Paramagnetik Pelepasan Lambat (Pupuk Slow Release Organic Paramagnetic/Pupuk SROP)*, Direktorat Jenderal Hak Kekayaan Intelektual, Kementerian Hukum dan Hak Asasi Manusia Republik Indonesia, No. Pendaftaran Paten P00201401530.
- Kuncaka, A., 2013, Slow Release Organic Paramagnetic (SROP) Fertilizer sebagai Model Humus Sintesis untuk Mengantarkan Terwujudnya Industri Pertanian Raksasa Nasional yang Berkelanjutan, *Pidato Dies Natalis*

*Universitas Gadjah Mada ke-58 Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Gadjah Mada, 19 Desember 2013, Yogyakarta.*

- Kowalski, S., Lukaszewicz, M., Chodak-Duda, A., and Ziec, G., 2013, 5-Hydroxy methyl-2-Furfural (HMF)- Heat Induced Formation, Occurrence in Food and Biotransformation-a Review, *Pol. J. Food Nutr.Sci.*, 63-4, 207-225.
- Lal, R., J., Kimble, M., and Follett, R.F., 2001, Methodological challenges toward balancing soil C pools and fluxes, *Assessment methods for soil carbon*, 659-668, CRC, Boca Raton.
- Lehmann, J., 2009, Terra Preta de Indio, *Encyc. of Soil Sci.*, 1, 1-4.
- Libra, J. A., Ro, K. S., Kammann, C., Funke, A., Berge, N. D., Neubauer, Y., and Kern, J. (2011). Hydrothermal carbonization of biomass residuals: A comparative review of the chemistry, processes and applications of wet and dry pyrolysis. *Biofuels*, 2(1), 71-106.
- Lilliestrale, A., 2007, Hydrothermal Carbonization of Biowaste—a step towards efficient carbon sequestration and sustainable energy production, *Thesis*, Uppsala Universitet, Swedia.
- Malghani, S., Gleixner, G., and Trumbore, S. E., 2013, Chars Produce by Slow Pyrolysis and Hydrothermal Carbonization Vary in Carbon Sequestration Potential and Greenhouse Gases Emissions, *J.Soil.Biochem.*, 62, 137-146.
- Mann, U., 2009, *Principles of Chemical Reactor Analysis and Design*, A John Wiley and Sons, New Jersey.
- Markewich, H.W. and Buell, G.R., 2001, *A guide to potential soil carbon sequestration. Land-use management for mitigation of greenhouse gas emissions*, Geological Survey Open-File Report 01-374, Atlanta.
- Marolt, M., 2014, *Superparamagnetic Materials*, University of Ljubjana, Faculty of Mathematics and Physics, Kranj, Russia.
- Matasova, G.G., Kazansky, A.Y., and Pozdnyakova, O.A., 2014, Rock Magnetik Properties of Archeological Sites in Different Geological Environments, *Geophys. J. Int.*, 54, 737-747.
- Mulyadi, M. dan Lestari, H., 1993, Komposisi Kimia Pupuk Cair dari Limbah MSG di Lampung, Berita No.10, Pusat Penelitian Perkebunan Gula Indonesia, Pasuruan.

- Piccolo, A., 2002, The Supramolecular Structure of Humic Substances: A Novel Understanding of Humus Chemistry and Implications in Soil Science, *Adv. Agro.*, 75, 57-134.
- Premono, M. E., Simoen, S., Purnomo, S., Arifin, S., Sumoyo, Soeparmono, A., Bachtiar, A., Effendi, S., Andriani, N., dan Chuajaeni, C., 2001, Pengaruh Sipramin terhadap Tebu, Sifat Nira, Kualitas Gula dan Sifat-Sifat Tanah, dalam *Prosiding Seminar Pengaruh Sipramin dalam Tanaman Pangan dan Tebuserta Dampaknya terhadap Tanah*, Pusat Penelitian dan Pengembangan Tanah dan Agroklimat, Badan Litbang Pertanian, Deptan, 29 Maret 2001, Jakarta.
- Saikia, B. J., Parthasarathy, G., Sarmah, N. C., 2008, Fourier Transform Infrared Spectroscopic Estimation of Crystallinity in SiO<sub>2</sub> Based Rocks, *Bull. Matter. Sci.*, 31(5), 775–779.
- Schimmel, D.S., 1995, Terrestrial ecosystems and the carbon-cycle. *Glob.Change Biol.* 1, 77-91.
- Schnitzer, M., Dinel, H., Schulten, H. R., Pare, T., and Lafond, S., 2000, *Humification of Duck Farm Wastes*. Dalam Ghabbour, E. A., Davies, G., *Humic Substances: Versatile Components of Plants, Soil and Water*, RSC, Cambridge.
- Sevilla, S. M., and Titirici, M., 2012, Hydrothermal carbonization: A greener route towards the synthesis of advanced carbon materials, *RSC Advances*, 2(33), 12792-12797.
- Sevilla, M., 2011, Hydrothermal Carbonization of Biomass as a Route for the Sequestration of CO<sub>2</sub>, Chemical and Structural Properties of the Carbonized Products, *Biomass Bioenergy*, 35, 3152–3159.
- Sevilla, M., and Fuestes, A. B., 2009, The Production of Carbon Materials by Hydrothermal Carbonization of Cellulose, *Carbon*, 47, 2281–2289.
- Simpson, A. J., Song, G., Smith, E., Lam, B., Novotny, E. H., and Hayes, M. H. B., 2007, Unrevealing the Structural Components of Soil Humin by Use of Solution-state Nuclear Magnetic Resonance to the Determination of Surface Area and Porosity, *Pure Appl. Chem.*, 57(4), 603-619.
- Smejkalova, D., and Piccolo, A., 2008, Host-Guest Interactions between 2,4-Dichlorophenol and Humic Substances as Evaluated by <sup>1</sup>H NMR Relaxation and Diffusion Ordered Spectroscopy, *Environ. Sci. Technol.*, 42, 699–706.

- Sofyan, A., Abdurachman, A., Adiningsih, J. S., Prihatini, T., dan Krisnadi, Y., 2001, Pengaruh Sipramin terhadap Hasil dan Mutu Tanaman Pangan serta Dampaknya terhadap Tanah, *dalam Prosiding Seminar Pengaruh Sipramin terhadap Tanaman Pangan dan Tebu serta Dampaknya terhadap Tanah*, Pusat penelitian dan Pengembangan Tanah dan Agroklimat, Badan Litbang Pertanian, Deptan, 29 Maret 2001, Jakarta.
- Song, G., Novotny, E.H., Simpson, A.J., Clapp, C.E., and Hayes, M.H.B., 2008, Sequential Exhaustive Extraction of a Mollisol Soil, and Characterizations of Humic Components, including Humin, by Solid and Solution State NMR, *Eur. J. Soil Sci.*, 59, 505–516.
- Stemann, J., Putschew, A., and Ziegler, F., 2013, Hydrothermal carbonization: Process water characterization and effects of water recirculation. *Bioresour. Technol.*, 143, 139-146.
- Stevenson, F.J., 1994, *Humus Chemistry: Genesis Composition Reaction*, 2<sup>nd</sup> ed., John Wiley and Sons, New York.
- Soelaeman, Y., Wahyunto, W., dan Sunaryo, S., 2003, Penggunaan Pupuk Cair Limbah Monosodium Glutamat (MSG) pada Tanaman Pangan Di Provinsi Lampung, *dalam Prosiding Seminar Multifungsi Pertanian dan Konservasi Sumber Daya Lahan*, Balai Penelitian Tanah, 18 Desember 2003, Bogor.
- Sutanto, R., 2002, *Penerapan Pertanian Organik. Permasalahannya dan Pengembangannya*. Penerbit Kanisius. Yogyakarta.
- Sutton, R., and Sposito, G., 2005, Molecular Structure in Soil Humic Substances, The New View, *Environ. Sci. Technol.*, 39, 9009–9015.
- Tarnocai, C., Canadell, J.G., Schuur, E.A.G., Kuhry, P., Mazhitova, G., and Zimov, S., 2009, Soil organic carbon pools in the northern circumpolar permafrost region, *Global Biogeochem. Cycles*, 23, 11.
- Titirici, M. M., Antonietti, M., and Baccile, N., 2008, Hydrothermal Carbon from Biomassa: A Comparison of the Local Structure from Poly- to Monosaccharides and Pentoses/Hexoses, *Green Chem.*, 10, 1204-1212.
- Triastuti, E., 2006, Laporan Sanitasi Industri Proses Produksi Monosodium Glutamat PT. Palur Raya Karanganyar, *Skripsi*, Fakultas Pertanian, Universitas Sebelas Maret, Surakarta.
- Wahyuningtyas, A., 2015, Studi Adsorpsi Desorpsi Glukosa pada Humin Sintetik, *Tesis*, Departemen Kimia FMIPA Universitas Gadjah Mada, Yogyakarta.

- Watoni, A.H., dan Buchari, 2000, Studi Aplikasi Metode Potensiometri Pada Penentuan Kandungan Karbon Organik Total Tanah, *J. M. B.*, 1(5), 23-40..
- Xiao,L., Shi,Z., Xu,F.,andSun, R. (2012). Hydrothermal carbonization of lignocellulosic biomass.*Bioresource Technol.*,118, 619-623.
- Yamaguchi, K.,and Ninomiya, K., 2000, Umami and food palatability,*J.Nutr.* 130, 921S-926S.
- Zhao, P., Ge, S., Ma, D.,Areprasert, C., andYoshikawa, K.(2014). Effect of hydrothermal pretreatment on convectivedryingcharacteristics of paper sludge. *ACS Sustainable Chemistry and Engineering*,2(4), 665-671.
- Zhu, K., Fu, H., Zhan, J., Lv, X., Tang, J., Xu, X., 2012, Studies on removal of  $\text{NH}_4\text{-N}$  from aqueous solution by usingthe activated carbons derived from rice husk, *Biomass Bioenerg.*, 43, 18–25.