

## DAFTAR PUSTAKA

- Abbassi-guendouz, A., Trably, E., Hamelin, J., Dumas, C., Steyer, J.P., Delgenès, J., Escudie, R. 2013. *Microbial Community Signature of High-Solid Content Methanogenic Ecosystems. Bioresource Technology*, 133, 256–262.
- Akwaka, J.C., Kukwa, D.T., Mwekave, S.S. 2014. *Preliminary Study on Co-Digestion of Cow Manure with Pretreated Sawdust for Production of Biogas and Biofertilizer. International Journal of Science and Technology*, 3(4), 222–228.
- Al Saedi, Rutz, D., Prassl, H., Kottner, M., Finsterwalder, T., Volk, S., et al. 2008. *Biogas*. Denmark.
- Aminah, T.S. 2011. *Potensi Hasil Samping Produksi Biogas dari Limbah Cair Pabrik Kelapa Sawit dengan Penambahan Aktivator Kotoran Sapi Potong Sebagai Pupuk Organik. Ilmu Produksi dan Teknologi Peternakan*. IPB. Bogor.
- Appels, L., Lauwers, J., Degreève, J., Helsen, L., Lievens, B., Willems, K. 2011. *Anaerobic Digestion In Global Bio-energy Production : Potential and Research Challenges. Renew Sustain Energy Rev. Vol. 15:4295-301*.
- Arifiantari, P.N., Handajani M., dan Sembiring, T. 2012. Pengaruh Rasio C/N Terhadap Degradasi Material Organik Dalam Sampah Pasar Secara Anaerob, <https://jujubandung.wordpress.com/2012/06/10/pengaruh-rasio-cn-terhadap-degradasi-material-organik-dalam-sampah-pasar-secara-anaerob-2/>
- Badan Pusat Statistik Indonesia., 2014. *Food Crops.*, pp.8–9. Available at: [http://www.bps.go.id/eng/tmn\\_pgn.php?kat=3](http://www.bps.go.id/eng/tmn_pgn.php?kat=3)
- Blueprint Pengelolaan Energi Nasional Republik Indonesia 2006 – 2025.*
- Boontian, N. 2014. *Conditions of the Anaerobic Digestion of Biomass. International Journal of Biological, Veterinary, Agricultural and Food Engineering*, 66(9), 960–964.

- Brown, D., Li, Y. 2013. *Solid State Anaerobic Co-Digestion of Yard Waste and Food Waste for Biogas Production. Bioresource Technology*, 127, 275–280.
- Brown, D., Shi, J., Li, Y. 2012. *Comparison of Solid-State to Liquid Anaerobic Digestion of Lignocellulosic Feedstocks for Biogas Production. Bioresource Technology*, 124, 379–386.
- Bruni, E., Jensen, A.P., Angelidaki, I. 2010. *Comparative Study of Mechanical, Hydrothermal, Chemical and Enzymatic Treatments of Digested Biofibers to Improve Biogas Production. J Bioresour Technol* Vol. 101:8713-7.
- Budiarto, H., Fitrah, A.M., & Tuhuloula, A. 2014. Pemanfaatan Sludge Hasil Produksi Biogas Berbasis Limbah Cair Latex menjadi Pupuk Kompos Cair. *Konversi*, Vol. 3 No. 1.
- Budiraharjo, S., Kristiawan, A., Wardani, A. 2014. Pemanfaatan Sekam Padi Pada Batako. *Prosiding SNST Fakultas Teknik*. Vol 1, No 1.
- Budiyono., Putri, D, A., Saputro, R, R. 2012. *Biogas Production From Cow Manure. International Journal of Renewable Energy Development*. 61-64.
- Budiyono, Syaichurrozi, I., & Sumardiono, S. 2013. *Biogas Production From Bioethanol Waste: The Effect Of Ph And Urea Addition To Biogas Production Rate. Waste Tech*, 1-5.
- Carrillo, Lis, Colom, López-Mesas, Valldeperas. 2005. *Effect of Alkali Pretreatment on Cellulase Hydrolysis of Wheat Straw: Kinetic study. Process Biochem*. 40(10), 3360.
- Chandra, R., Takeuchi, H., Hasegawa, T., & Kumar, R. 2012. *Hydrothermal Pretreatment of Rice Straw Biomass : A Potential and Promising Method for Enhanced Methane Production. J Appl Energy*, 94:129-40.
- Chattoraj, S., N.K. Mondal, B. Sadhukhan. 2013. *Predictability by Box-Behnken Model for Carbaryl Adsorption by Soils of Indian Origin. J, Environ, Sci, Health*. B 48: 626 – 636.
- Chen, X., Yan, W., Sheng, K., Sanati, M. 2014. *Comparison of High-Solids to Liquid Anaerobic Co-Digestion of Food Waste and Green Waste. Bioresource Technology*, 154, 215–221.

- Cornel, J.H. 1990. *How to Apply Response Surface Methodology*. Volume 8 ASQC, New York, pp. 58-60.
- Damanhuri, Enri. 1990. Peranan Biodegradasi Sampah dalam Mempercepat Satabilitas Lahan Urug Saniter. Jurnal Ilmiah dalam Seminar PAU Bioteknologi ITB – 11 Januari 1990. Jurusan Teknik Lingkungan ITB. Bandung.
- Deublein, D., Steinhauser, A. 2008. *Biogas from Waste and Renewable Resource*. Wiley-VCH Verlag GmbH dan Co. KGaA, Weinheim.
- Dewan Energi Nasional. 2014. *Outlook Energi Indonesia*.
- Fezzani, B., Ben Cheikh, R. 2010. *Two-Phase Anaerobic Co-Digestion of Olive Mill Wastes in Semi-Continuous Digesters at Mesophilic Temperature*. *Bioresource Technology*, 101(6), 1628–34.
- Gu, Y., Chen, X., Liu, Z., Zhou, X., Zhang, Y. 2014. *Effect of Inoculum Sources on The Anaerobic Digestion of Rice Straw*. *Bioresource Technology*, 158, 149–155.
- Harold, B. G. 1965. *Composting*. World Health Organization. Geneva. Haug. R. T. 1962. *Compost Engineering. Principle and Practice*. USA.
- Hendriks, A.T.W.M., Zeeman, G. 2009. *Pretreatments to Enhance The Digestibility of Lignocellulosic Biomass*. *Bioresource Technology*, 100, 10–18.
- Hidayatulloh, A. W., dan E. W. Prabowo, 2011. Mikroorganisme *Azotobacter Chroococcum* dan *Bacillus Megaterium* Terhadap Pembuatan Kompos Limbah Padat Digester Biogas dari Enceng Gondok (*Eichornia Crassipes*). Teknik Kimia, ITS, Surabaya.
- Hozairi, Bakir, & Buhari. 2012. Pemanfaatan Kotoran Hewan Menjadi Energi Biogas Untuk Mendukung Pertumbuhan UMKM di Kabupaten Pamekasan.
- Igoni, A.H., Abowei, M.F.N., Ayotamuno, M.J., Eze, C.L. 2008. *Effect of Total Solids Concentration of Municipal Solid Waste on The Biogas Produced in an Anaerobic Continuous Digester*. *Agricultural Engineering International: The CIGR Ejournal*, X, 1–11.

- Ikawati, Ratna. 2005. Optimasi Kondisi Ekstraksi Karotenoid Wortel (*Daucus carota L.*) menggunakan Response Surface Methodology (RSM). *Jurnal Tekonolgi Pertanian* 1 (1).
- Jha, A.K., Li, J., Nies, L., Zhang, L. 2011. *Research Advances In Dry Anaerobic Digestion Process of Solid Organic Wastes. African Journal of Biotechnology*, 10(65), 14242–14253.
- Junus, M. 1987. Teknik Membuat dan Memanfaatkan Unit Gas Bio. Gajah Mada University Press, Malang.
- Kabir, M.M., Niklasson, C., Taherzadeh, M.J., Sárvári, I. 2014. *Biogas Production from Lignocelluloses by N-Methylmorpholine-N-Oxide (NMMO) Pretreatment: Effects of Recovery and Reuse of NMMO. Bioresource Technology*, 161:446-450
- Kangle, K.M., Kore, S.V, Kore, V.S., and Kulkarni, G.S. 2012. *Recent Trends In Anaerobic Codigestion: A Review. Universal Journal of Environmental Research and Technology*, 2(4), 210–219.
- Karthikeyan, O.P., Visvanathan, C. 2013. *Bio-Energy Recovery from High-Solid Organic Substrates by Dry Anaerobic Bio-Conversion Processes : A Review. Rev Environ Sci Biotechnol*, 12, 257–284.
- Kasisira, L.L., Muiyiyi, N.D. 2009. *Assessment of The Effect of Mixing Pig and Cow Dung on Biogas Yield. Agricultural Engineering International: The CIGR Ejournal*, XI(2003), 1–7.
- Khalid, A., Arshad, M., Anjum, M., Mahmood, T., Dawson, L. 2011. *The Anaerobic Digestion of Solid Organic Waste. Waste Management*, 31(8), 1737–44.
- Khorshidi, N., Arikani, B. 2008. *Experimental Practice In Order To Increasing Efficiency Of Biogas Production By Treating Digestate Sludge. Applied Biotechnology*. 181-300 ECTS credits No. 3.
- Krátký, L., Jirout, T., Nalezenc, J. 2012. *Lab-Scale Technology for Biogas Production from Lignocellulose Wastes Biomass Size Reduction. Acta Polytechnica*, 52(3), 54–59.

- Li, Y., Park, S.Y., Zhu, J. 2011a. *Solid-State Anaerobic Digestion for Methane Production from Organic Waste. Renewable and Sustainable Energy Reviews*, 15(1), 821–826.
- Li, Y., Zhu, J., Wan, C., Park, S.Y. 2011b. *Solid-State Anaerobic Digestion of Corn Stover for Biogas Production. American Society of Agricultural and Biological Engineers*, 54(4), 1415–1421.
- Liew, L.N., Shi, J., Li, Y. 2012. *Methane Production from Solid-State Anaerobic Digestion of Lignocellulosic Biomass. Biomass and Bioenergy*, 46, 125–132
- Liu, G., Zhang, R., El-mashad, H.M., Dong, R. 2009. *Bioresource Technology Effect of Feed to Inoculum Ratios on Biogas Yields of Food and Green Wastes. Bioresource Technology*, 100(21), 5103–5108.
- Mardina, P., Talalngi, A, I.,Sitinjak, J, F, M., Nugroho, A., Fahrizal, M, R., 2013. Pengaruh Proses Delignifikasi Pada Produksi Glukosa dari Tongkol Jagung dengan Hidrolisis Asam Encer. *Konversi*, 2, 2.
- Mirmohamadsadeghi, S., Karimi, K., Zamani, A., Amiri, H., Horváth, I.S. 2014. *Enhanced Solid-State Biogas Production from Lignocellulosic Biomass by Organosolv Pretreatment. BioMed Research International*, 2014, 1–6.
- Montgomery, D.C. 1984. *Design and Analysis of Experiments 2th edition. John Wiley & Sons, Inc.*
- Motte, J.-C, Escudié, R., Bernet, N., Delgenes, J.-P, Steyer, J.-P, Dumas, C. 2013. *Dynamic Effect of Total Solid Content, Low Substrate/Inoculum Ratio and Particle Size On Solid-State Anaerobic Digestion. Bioresource Technology*, 144, 141–148.
- Mulder, M. 1996. *Basic Principles Of Membrane Technology*. Edisi 2. Dordrecht Kluwer Academic.
- Mulia, L. 2015. Produksi Biogas dari Bahan Baku Jerami Padi dengan Metode *Solid State Anaerobic Digestion* - Rangkaian Peralatan *Digester*. Hal 26.
- Nopharatana A., Pullammanappallil P.C. and Clarke W.P. 2007. *Kinetic And Dynamic Modelling of Batch Anaerobic Digestion of Municipal Solid Waste In A Stirred Reactor. Waste Management*. 27: 595-603.

- Nugraha<sup>1</sup>, W.D., Syafrudin, Keumala, C.F., Matin, H.H.A., and Budiyo. 2018. *The Effect of Acid Pre-Treatment using Acetic Acid and Nitric Acid in The Production of Biogas from Rice Husk during Solid State Anaerobic Digestion (SS-AD)*. *E3S Web of Conferences* 31, 01006.
- Okeh, O. C., Onwosi, C. O., & Odibo, F. J. (2013). *Biogas Production from Rice Husks Generated From Various Rice Mills in Ebonyi State, Nigeria*. *Renewable Energy*, 204-208.
- Padmono, D. 2007. Kemampuan Alkalinitas Kapasitas Penyangga (*Buffer Capacity*) Dalam Sistem Anaerobik *Fixed Bed*, 8(2), 119-127..
- Papacz, W. 2011. *Biogas as Vehicle Fuel*. *Journal of KONES Powerstrain and Transport*, 18(1), 403–410.
- Petersson, A., Thomsen, M.H., Hauggaard-nielsen, H., Thomsen, A. 2007. *Potential Bioethanol and Biogas Production using Lignocellulosic Biomass from Winter Rye, Oilseed Rape And Faba Bean*. *Biomass and Bioenergy*, 31, 812–819
- Priyanto. 2014. Gas Alam Bakal Jadi Energi Utama Industri Nasional. Retrieved 2015, from kemenperin.go.id: <http://kemenperin.go.id/>
- Radjaram, B., dan Saravane, R. 2011. *Assesment of Optimum Dilution Ratio for Biohydrogen Production by Anaerobic Co-Digestion of Press Mud With Sewage and Water*. *Bioresource Technology*, 102, 2773-2780.
- Risberg, K., Sun, L., Levén, L., Horn, S.J., Schnürer, A. 2013. *Biogas Production From Wheat Straw And Manure – Impact Of Pretreatment And Process Operating Parameters*. *Bioresource Technology*. Vol. 149:232–237.
- Rydholm, S. A. (1965). *Pulping Procesesses, 1st ed. London: Interscience Publications*.
- Sadhukan, Bikash, Naba K. Mondal, Soumya Chattoraj. 2016. *Optimisation Using Central Composite Design (CCD) and the Desirability Function for Sorption of Methylene Blue from Aqueous Solution onto Lemna Major*. *Karbala International Journal of Modern Science*. 1 – 11.
- Sahirman, S. 1994. Kajian Pemanfaatan Limbah Cair Pabrik Kelapa Sawit untuk Memproduksi Gasbio. [*Tesis*]. Program Pascasarjana IPB : Bogor.

- Salehian, P., Karimi, K., Zilouei, H., Jeihanipour, A., 2013. *Improvement of Biogas Production from Pine Wood by Alkali Pretreatment. Fuel*, 106, 484-489.
- Saragih, B. R. 2010. Analisis Potensi Biogas untuk Menghasilkan Energi Listrik dan Termal pada Gedung Komersil di Daerah Perkotaan (Studi Kasus Pada Mal Metropolitan Bekasi). Magister Teknik Elektro, Fakultas Teknik Universitas Indonesia.
- Sari, F. and Budiyo, B. (2014). *Enhanced Biogas Production from Rice Straw with Various Pretreatment : A Review. Waste Technology*, 2(1), 17-25.
- Sarrai, Abd Elaziz, Salah Hanini, Nachida Kasbadji Merzouk, Djilali Tassalit, Tibor Szabo, Klara Hernadi, dan Laszlo Nagy. 2016. *Using Central Composite Design to Optimize the Degradation of Tylosin form Aqueous Solution by Photo-Fenton Reaction. Article Materials* (9): 428.
- Sawasdee, V. 2014. *Feasibility of Biogas Production from Nepier Grass. Energi Procedia* (61): 1229 – 1233.
- Schimpf, U., Hanreich, A., Mähnert, P., Unmack, T., Junne, S., Renpenning, J., Lopez-ulibbarri, R. 2013. *Improving The Efficiency of Large-Scale Biogas Processes : Pectinolytic Enzymes Accelerate the Lignocellulose Degradation. Journal of Sustainable Energy & Environment*, 4, 53–60
- Schnürer, A., Jarvis, Å. 2010. *Microbiological Handbook for Biogas Plants. Swedish Waste Management and Swedish Gas Centre.*
- Sri, A.T. 2011. Potensi Hasil Samping Produksi Biogas dari Limbah Cair Pabrik Kelapa Sawit dengan Penambahan Aktivator Kotoran Sapi Potong sebagai Pupuk Organik. Departemen Ilmu Produksi dan Teknologi Peternakan Fakultas Peternakan Institut Pertanian Bogor.
- Suyitno, Agus Sujono, Dharmanto. 2010. *Teknologi Biogas: Pembuatan, Operasional dan Pemanfaatan.* Yogyakarta: Graha Ilmu.
- Suzuki, K., Takeshi, W. & Vo Lam. 2001. *Consentration and Cristalization of Phosphate, Ammonium and Minerals on The Effluent of Bio-Gas Digester In The Mekong Deltha, Vietnam. Jircan and Cantho University, Cantho Vietnam. Japan Agriculture Research Quarter* 32 (4), 271-276.

- Syafrudin, Nugraha, W.D., Ardinata, I.H., Kencanawardhani, L.G., Matin, H.H.A., and Budiyono. 2017b. *The Influence of Total Solid (TS) Content to Biogas Production from Rice Husk Waste During Solid State Anaerobic Digestion (SS-AD)*. *Advanced Science Letters*, Volume 23, No 3, pp. 2204-2206(3).
- Syafrudin, Nugraha, W.D., Matin, H.H.A., and Budiyono. 2017a. *The Effect of Enzymatic Pretreatment and C/N Ratio to Biogas Production from Rice Husk Waste during Solid State Anaerobic Digestion (SS-AD)*. *MATEC Web of Conferences* 101, 02016.
- Syafrudin, Nugraha, W.D., Agnesia, S.S., Matin, H.H.A., and Budiyono. 2018. *Enhancement of Biogas Production from Rice Husk by NaOH and Enzyme Pretreatment*. *E3S Web of Conferences* 31, 02002.
- Taherdanak, M., Zilouei, H., 2014. *Improving Biogas Production from Wheat Plant using Alkaline Pretreatment*. *Fuel*, 115, 714-719.
- Taherzadeh, M.J., Karimi, K. 2008. *Pretreatment of Lignocellulosic Wastes to Improve Ethanol and Biogas Production: A Review*. *International Journal of Molecular Sciences*, 9, 1621–1651.
- Teghammar, A., Forgacs, G., Sarvari Horvath, I., & Taherzadeh, M. J. 2014. *Techno-Economic Study of NMMO Pretreatment and Biogas Production from Forest Residues*. *Applied Energy*, 116, 125–133.
- Toscano, G., Ausiello, A., Micoli, L., Zuccaro, G. 2013. *Anaerobic Digestion of Residual Lignocellulosic Materials to Biogas and Biohydrogen*. *Chemical Engineering Transactions*, 32, 487–492.
- Vesilind, P. A., J. J. Pierce & R. F. Weiner. 1990. *Environmental Pollution and Control*. *Butterworth-Heinemann, Boston*.
- Wahyono, E. H. & Sudarno, N. 2012. *Biogas : Energi Ramah Lingkungan*. Yapeka, Bogor.
- Wahyuni, S. 2011. *Biogas Energi Terbarukan Ramah Lingkungan dan Berkelanjutan*. Kongres Ilmu Pengetahuan Nasional (KIPNAS) ke 10. Jakarta.



- Wang, D., Ai, P., Yu, L., Tan, Z., Zhang, Y., 2015. *Comparing the Hydrolysis and Biogas Production Performance of Alkali and Acid Pretreatment of Rice Straw using Two-Stage Anaerobic Fermentation. Biosystems Engineering*, 132, 47-55.
- Weiland, P. 2010. *Biogas Production: Current State and Perspectives. Appl Microbiol Biotechnol*, 85, 849–860.
- Widihati, I.A.G., Simpen, IN. dan Puspawati N.M. 2013. Produksi Bioenergi Alternatif Dalam Biodigester Mobile melalui Pemanfaatan Limbah Ternak Sapi Bali untuk Menunjang Peternakan Berkelanjutan. *Udayana Mengabdikan* 12 (2): 84 – 86.
- Wu, X., Yao, W., Zhu, J., Miller, C. 2010. *Biogas and CH<sub>4</sub> Productivity by Co-Digesting Swine Manure with Three Crop Residues as An External Carbon Source. Bioresource Technology*, 101(11), 4042–4047.
- Xu, F., Li, Y. 2012. *Solid-State Co-Digestion of Expired Dog Food and Corn Stover for Methane Production. Bioresource Technology*, 118, 219–226
- Xu, F., Shi, J., Lv, W., Yu, Z., Li, Y. 2013. *Comparison of Different Liquid Anaerobic Digestion Effluents as Inocula and Nitrogen Sources for Solid-State Batch Anaerobic Digestion of Corn Stover. Waste Management*, 33(1), 26–32.
- Xu, F., Wang, Z.W., Li, Y., 2014. *Predicting the Methane Yield of Lignocellulosic Biomass in Mesophilic Solid-State Anaerobic Digestion Based on Feedstock Characteristics and Process Parameters. Bioresource Technology*, 173, 168–176.
- Yan, L; Yamei, G; Yanjie, W; Quan, L; Zhiyuan, S; Borui, F; Xue, W; Zongjun, C; Weidong, W. 2012. *Diversity Of A Mesophilic Lignocellulolytic Microbial Consortium Which is Useful for Enhancement of Biogas Production. College of Agronomy And Biotechnology China Agricultural University*
- Yang, L., Li, Y. 2014. *Anaerobic Digestion of Giant Reed for Methane Production. Bioresource Technology*, 171, 233–239.

- Yuan, X., Cao, Y., Li, J., Wen, B., Zhu, W., Wang, X., & Cui, Z. 2012. *Effect of Pretreatment by a Microbial Consortium On Methane Production of Waste Paper and Cardboard. Bioresource technology, 118, 281-288.*
- Yu, L., Wensel, P.C., Ma, J., Chen, S. 2013. *Mathematical Modeling in Anaerobic Digestion (AD). Bioremediation & Biodegradation.*
- Zeshan, 2012. *Dry Anerobic Digestion of Munipical Solid Waste and Digestate Management Strategies. Asian Institute of Technology, School of Environment, Resources and Development.*
- Zhang, Q., He, J., Tian, M., Mao, Z., Tang, L., Zhang, J.2011. *Enhancement Of Methane Production From Cassava Residues By Biological Pretreatment Using A Constructed Microbial Consortium. Bioresour Technol Vol. 102:8899-906.*
- Zheng, M., Li, X., Li, L., Yang, X., He, Y., 2009. *Enhancing Anaerobic Biogasification of Corn Stover Through Wet State NaOH Pretreatment. Bioresource Technology, 100, 5140-5145.*
- Zhong, W., Zhang, Z., Luo, Y., Sun, S., Qiao, W., Xiao, M. 2011. *Effect of Biological Pretreatments in Enhancing Corn Straw Biogas Production. Bioresource Technology, 102(24), 11177–11182.*
- Zhu, J., Wan, C., Li, Y. 2010. *Enhanced Solid-State Anaerobic Digestion of Corn Stover by Alkaline Pretreatment. Bioresource Technology, 101(19), 7523–7528.*
- Zhu, J., Zheng, Y., Xu, F., Li, Y. 2014. *Solid-State Anaerobic Co-Digestion of Hay and Soybean Processing Waste for Biogas Production. Bioresource Technology, 154, 240–24*

