



DAFTAR PUSTAKA

- Adebowale, K. O., B. I. Olu-Owolabi, O. O. Olayinka, and O. S. Lawal. 2005. Effect of Heat Moisture Treatment and Annealing On Physicochemical Properties of Red Sorghum Starch. *African Journal of Biotechnology* 4(9): 928-933.
- Agbor, V.B., N. Cicek, R. Sparling, A. Berlin, D.B. Levin. 2011. Biomass Pretreatment: Fundamentals Toward Application. *Biotechnology Advances* 29: 675–685.
- Alvira P., P.E. Tomas, M. Ballesteros, M.J. Negro. 2010. Pretreatment Technologies for an Efficient Bioethanol Production Process Based on Enzymatic Hydrolysis: A Review. *Bioresource Technology* 101: 4851-4861.
- Anugrahati, N.A., Y. Pranoto, Y. Marsono, D.W. Marseno. 2017. Physicochemical properties of rice (*Oryza sativa* L.) flour and starch of two Indonesian rice varieties differing in amylose content. *International Food Research Journal* 24(1): 108-113.
- Ashogbon, A. O., and Akintayo E. T. 2014. Recent Trend in The Physical and Chemical Modification of Starches from Different Botanical Sources: A Review. *Starch/Staerke* 66: 41-57.
- AOAC. 2005. *Official Method of Analysis*. The Association of Official Analytical Chemists. 18th ed. AOAC International. W. Harwitz (Ed). Maryland.
- Beta, T., and Corke. 2001. Noodle Quality as Related to Sorghum Starch Properties. *Cereal Chemistry* 78: 417-420.
- BPS. 2015. *Produksi Padi Menurut Provinsi (ton), 1993-2015*. Badan Pusat Statistik Indonesia. Dalam <https://www.bps.go.id/> Diakses pada 1 Agustus 2017.
- Bruna, A., J. Bartz, M. Radunz, J.A. Evangelho, V.Z. Pinto, E.R. Zavareze, A.R.G. Dias. 2015. Impact of Heat-Moisture Treatment on Rice Starch, Applied Directly in Grain Paddy Rice or in Isolated Starch. *Food Science and Technology* 60: 708-713.
- Buleon, A., P. Colonna, V. Planchot, S. Ball. 1998. Starch Granules: Structure and Biosynthesis. *International Journal of Biological Macromolecules* 23: 85–112.
- Carolina, Sylvia, and Maria Angela. 2005. Physicochemical Properties, Modifications and Applications of Starches from Different Botanical Sources. *Food Science Technology* 35(2): 215-236.



- Cevallos, P., Peggy A., Maria P. Buera, Beatriz E. Elizalde. 2010. Encapsulation of cinnamon and thyme essential oils components (cinnamaldehyde and thymol) in β -cyclodextrin: Effect of interactions with water on complex stability. *Journal of Food Engineering* 99(1): 70-75.
- Chen, W., Ben-Li P., Ching-Tsung Y., Wen-Song H. 2011. Pretreatment Efficiency and Structural Characterization of Rice Straw by an Integrated Process of Dilute-acid and Steam Explosion for Bioethanol Production. *Bioresource Technology* 102: 2916-2924.
- Copeland, L., J. Blazek, H. Salman, M.C. Tang. 2009. Form and Functionality of Starch. *Food Hydrocolloids* 23:1527–1534.
- Cruz, N.D., and G.S. Khush. 2000. *Rice Grain Quality Evaluation Procedures*. In: Singh, R.K., Singh, U.S. and Khush, G.S., Eds., *Aromatic Rices*. Oxford and IBH Publishing Co Pvt. Ltd. New Delhi.
- Daramola, B., and S.A. Osanyinlusi. 2006. Investigation on Modification of Cassava Starch Using Active Components of Ginger Roots (*Zingiber officinale*). *African Journal of Biotechnology* 5: 917–920.
- Direktorat Gizi Departemen Kesehatan RI. 2004. *Daftar Komposisi Bahan Makanan*. Jakarta: Bhratara Karya Aksara.
- Dziedzic, S.Z., and M.W. Kearsley. 2012. *Handbook of Starch Hydrolysis Products and their Derivatives*. Springer Science & Business Media.
- Faridah, D.N., Fardiaz D., Andarwulan N., Sunarti T.C. 2010. Perubahan Struktur Pati Garut (*Maranta arundinaceae*) sebagai Akibat Modifikasi Hidrolisis Asam, Pemotongan Titik Percabangan dan Siklus Pemanasan-Pendinginan. *Jurnal Teknologi dan Industri Pangan* 21(2): 135-142.
- Fernandes, R.V., S.V. Borges, D.A. Botrel. 2013. Influence of Spray Drying Operating Conditions on Mmicroencapsulated Rosemary Essential Oil Properties. *Ciência e Tecnologia de Alimentos* 33: 171-178.
- Fortuna, T., L. Juszczak, M. Palasinski. 2001. *Properties of Corn and Wheat Starch Phosphates Obtained from Granules Segregated According to Their Size*. London: EJPAU.
- Gastanaduy, A., A. Cordano, G.G. Graham. 1990. Acceptability, Tolerance, and Nutritional Value of a Rice-Based Infant Formula. *Journal of Pediatric Gastroenterology and Nutrition* 11(2): 240-246.
- Gharsalloui, G. R., Chambin, O., Voilley, A., Saurel, R. 2007. Applications of Spray-Drying in Microencapsulation of Food Ingredients: An Overview. *Food Research International* 40: 1107–1121.



- Hadi, D. T. 2017. Analisis Sifat Kimia dan Fungsional Pasta Pati Singkong Termodifikasi dengan Fermentasi *Saccharomyces cerevisiae*. *Skripsi*. Fakultas Pertanian. Universitas Lampung. Bandar Lampung.
- Haryadi. 2006. *Teknologi Pengolahan Beras*. Yogyakarta: Gadjah Mada University Press.
- Haryani, K., Hargono, A. M. Samsudin, H. Satriadi, Suryanto. 2016. Pembuatan Dekstrin dari Pati Sorgum secara Hidrolisis Menggunakan Enzim α -Amilase. *Jurnal Rekayasa Mesin* 11(1): 32-38.
- Haryanti, P., Setyawati, R., Wicaksono, R.. 2014. Pengaruh Suhu dan Lama Pemanasan Suspensi Pati serta Konsentrasi Butanol terhadap Karakteristik Fisiko Kimia Pati Tinggi Amilosa dari Tapioka. *Jurnal Agritech* 31(2): 308-315.
- Hasbullah, R., dan Pramita R.D. 2013. Pengaruh Lama Perendaman terhadap Mutu Beras Pratanak pada Varietas IR 64. *Jurnal Keteknikan Pertanian* 27: 53-60.
- Herawati, H. 2009. Potensi Pengembangan Produk Pati Tahan Cerna sebagai Pangan Fungsional. *Jurnal Litbang Pertanian* 30(1): 31-39.
- Herawati, H. 2012. Teknologi Proses Produksi *Food Ingredient* dari Tapioka Termodifikasi. *Jurnal Litbang Pertanian* 31(2): 68-76.
- Hoover, R. 2001. Composition, Molecular Structure, and Physicochemical Properties of Tuber and Root Starches: A Review. *Carbohydrate Polymers* 45: 253-267.
- Hoover, R., Swamidas, G., Vasanthan, T. 1993. Studies on the Physicochemical Properties of Native, Defatted, and Heat Moisture Treated Pigeon Pea (*Cajanus cajan* L.) Starch. *Carbohydrate Research* 246: 185-203.
- Hormdok, R, and A. Noomhorm. 2007. Hydrothermal Treatments of Rice Starch for Improvement of Rice Noodle Quality. *Food Science and Technology* 40: 1723-1731.
- Husniati. 2009. Studi Karakterisasi Sifat Fungsi Maltodekstrin dari Pati Singkong. *Jurnal Riset Industri* 3(2): 133-138.
- Ibrahim, M., 1998. Clean Fractionation of Biomass - Steam Explosion and Extraction. *Thesis*. Faculty of The Virginia Polytechnic Institute and State University.
- Indrastuti, E., Harijono, B. Susilo. 2012. Karakteristik Tepung Ubi Ungu (*Discorea alata* L.) yang Direndam dan Dikeringkan sebagai Bahan *Edible Paper*. *Jurnal Teknologi Pertanian* 13(3): 169-176.



- Jacobs, H., and J.A. Delcour. 1998. Hydrothermal Modifications of Granular starch, with Retention of the Granular Structure: a Review. *J. Agric. Food Chem.* 46(8): 2895–2905.
- Jacquet, N., Quiévy, N., Vanderghem, C., Janas, S., Blecker, C., Wathelet, B., Devaux, J., Paquot, M., 2011. Influence of Steam Explosion on the Thermal Stability of Cellulose Fibres. *Polym. Degrad. Stab.* 96: 1582–1588.
- Jane, J. 2006. Current Understanding on Starch Granule Structures. *Journal of Applied Glycoscience* 53:205-213.
- Jenkins, P. J., and Donald, A. M. 1998. Gelatinisation of Starch: A Combined WAXS/SAXS/ DSC and SANS Study. *Carbohydrate Research* 308: 133-147.
- Jivan, M.J., Mohamadsaeed Y., Ashkan M. 2014. Preparation of Cold Water-Soluble Potato Starch and Its Characterization. *Journal of Food Science and Technology* 51: 601-605.
- Juliano, B.O. 1994. *Rice Chemistry and Technology*. American Assosiation of Cereal Chemists, St. Paul, Minnesota.
- Kalsum, N., dan Surfiana. 2013. Karakteristik Dekstrin dari Pati Ubi Kayu yang Diproduksi dengan Metode Prigelatinisasi Parsial. *Jurnal Penelitian Pertanian Terapan* 13(1): 13-23.
- Khunae, P., T. Tran, P. Sirivongpaisal. 2007. Effect of Heat-Moisture Treatment on Structural and Thermal Properties of Rice Starches Differing in Amylose Content. *Starch/Stärke* 59: 593–599.
- Kim, Y.D., Morr, C.V., Schenz, T.W. 1996. Microencapsulation Properties of Gum Arabic and Several Food Proteins: Spray-Dried Orange Oil Emulsion Particles. *Journal of Agricultural and Food Chemistry* 44: 1314-1320.
- Koswara, Sutrisno. 2009a. *Teknologi Pengolahan Beras (Teori dan Praktek)*. Dalam <http://www.eBookPangan.com>. Diakses pada 16 September 2017.
- Koswara, Sutrisno. 2009b. *Teknologi Modifikasi Pati*. Dalam <http://www.eBookPangan.com>. Diakses pada 21 September 2017.
- Kusnandar, F. 2011. *Kimia Pangan Komponen Makro*. Cetakan Pertama. PT. Dian Rakyat. Jakarta.
- Kusnandar, F., H. P. Hastuti, E. Syamsir. 2015. Pati Resisten Sagu Hasil Proses Hidrolisis Asam dan Autoclaving-Cooling. *Jurnal Teknologi dan Industri Pangan* 26(1): 52-62.



- Li, Guanglei, Mengxue Chen, Fei Li, Jie Zeng, Junliang Sun. 2017. Effect of Steam Explosion Pre-treatment on Molecular Structure of Sweet Potato Starch. *Tropical Journal of Pharmaceutical Research* 16: 1113-1119.
- Liu, Z., L. Peng, J.F. Kennedy. 2005. The Technology of Molecular Manipulation and Modification. Asisted by Microwaves as Applied to Starch Granules. *Carbohydrate Polymers* 61: 374–378.
- Liu, Z. H., L. Qin, F. Pang, M.J. Jin, B.Z. Li, Y. Kang, Y.J. Yuan. 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.
- López, O. V., Zaritzky, N. E., García, M. A. 2010. Physicochemical Characterization of Chemically Modified Corn Starches Related to Rheological Behavior, Retrogradation and Film Forming Capacity. *Journal of Food Engineering* 100: 160-168.
- Martin C, Galbe M, Wahlbom CF, Hahnagerdal B, dan Jonsson LJ, 2002. Ethanol Production from Enzymatic Hydrolysates of Sugarcane Bagasse using Recombinant Xylose-utilising *Saccharomyces cerevisiae*. *Enzyme Microbiology Technology* 31: 274–282.
- Menon, V. and Rao M. 2012. Trends in Bioconversion of Lignocellulose: Biofuels, Platform Chemicals & Biorefinery Concept. *Progress in Energy and Combustion Science* 8(4): 522–550.
- Mukhlisoh, D. 2017. Modifikasi Pati Singkong (*Manihot esculenta*) Menggunakan Perlakuan *Steam Explosion*. *Skripsi*. Fakultas Teknologi Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Mulyandari, S.H. 1992. *Kajian Perbandingan Sifat-Sifat Pati Umbi-Umbian dan Pati Biji-Bijian*. IPB, Bogor.
- Murillo, C.E.C., Y.J. Wang, L.A.B. Perez. 2008. Morphological, Physicochemical and Structural Characteristics of Oxidized Barley and Corn Starches. *Starch/Stärke* 60: 634-645.
- Parker, R. 2003. *Introduction to Food Science*. United States of America: Delmar.
- Patiwiri, A.W. 2006. *Teknologi Penggilingan Padi*. Jakarta: PT Gramedia Pustaka Utama.
- Pérez, S., and Bertoft E. 2010. The Molecular Structures of Starch Components and Their Contribution to the Architecture of Starch Granules: A Comprehensive Review. *Starch* 62: 389-420.



- Pomeranz, Y. 1991. *Functional Properties of Food Components*. San Diego: Academic Press Inc.
- Poshadri, A., and Kuna, A. 2010. Microencapsulation Technology: A Review. *The Journal of Research ANGRAU* 38(1): 86-102.
- Puncha-Arnon, S. dan Dudsadee U. 2013. Rice Starch vs. Rice Flour: Differences in Their Properties When Modified by Heat-Moisture Treatment. *Carbohydrate Polymers* 91(1): 85–91.
- Raja, K.C.M., B. Sankarikutty, M. Sreekumar, A. Jayalekshmy, C. S. Narayanan. 1989. Material Characterization Studies of Maltodextrin Samples for the Use of Wall Material. *Starch/Stärke* 41: 298-303.
- Saloko, S., Darmadji, P., Setiaji, B., Pranoto, Y. 2012. Structural Analysis of Spray-Dried Coconut Shell Liquid Smoke Powder. *Jurnal Teknologi dan Industri Pangan* 23: 173-179
- Shimizu, K., K. Sudo, H. Ono, M. Ishihara, T. Fujii and S. Hishiyama. 1998. Integrated Process for Total Utilization of Wood Componen by Steam Explosion Pretreatment. *Biomass and Bioenergy* 14: 195-203.
- Singh, L., and Vipin C.K. 2017. *Waste Biomass Management – A Holistic Approach*. United State: Springer.
- Singh, R. P., and Heldman, D. R. 2004. Introduction to Food Engineering 4th edition. Elsevier Inc. China.
- Singh, V., Okadome, H., Toyoshima, H., Isobe, S., Ohtsubo, K. 2000. Thermal and Physicochemical Properties of Rice Grain, Flour and Starch. *Journal of Agricultural and Food Chemistry* 48: 2639-2647.
- Smith, A. M. 2001. The Biosynthesis of Starch Granules. *Biomacromolecules* 2(2): 335-341.
- Sudiyani, Y., J. Waluyo, A.P. Riandy, P. Primandaru, Novia. 2015. Pengaruh Temperatur dan Waktu Tinggal pada Perlakuan Awal Bagas Sorgum dengan Metode *Steam Explosion*. *Jurnal Teknik Kimia* 4(21): 47-56.
- Sumardiono, S., dan I. Pudjihastuti. 2015. Pengembangan Proses Modifikasi dengan Hidrolisa Asam Laktat dan UV untuk Substitusi Terigu dalam Produk Pangan. *Metana* 11(2): 27-32.
- Sui, W., and Chen, H. 2016. Effects of Water States on Steam Explosion of Lignocellulosic Biomass. *Bioresource Technology*. Elsevier Ltd, 199: 155-163.



- Syah, I.T., Darmadji, P., Pranoto, Y. 2015. Microencapsulation of Refined Liquid Smoke using Maltodextrin Produced from Broken Rice Starch. *Journal of Food Processing and Preservation* 40: 437-446.
- Syamsir, E., P. Hariyadi, D. Fardiat, N. Andarwulan, F. Kusnandar. 2011. Karakterisasi Tapioka dari Lima Varietas Ubi Kayu (*Manihot utilisima crantz*) Asal Lampung. *Jurnal Agroteknologi* 5(1): 93-105.
- Tjahadi, R. T. 2017. Modifikasi Pati Kentang dengan Perlakuan *Steam Explosion*. *Skripsi*. Fakultas Teknologi Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Tjitrosoepomo, G. 1994. *Taksonomi Tumbuhan Obat-obatan*. Yogyakarta: UGM Press.
- Ulyarti, 1997. Mempelajari Sifat-Sifat Amilografi Pada Amilosa, Amilopektin, dan Campurannya. *Skripsi*. Fakultas Teknologi Pertanian. Institut Pertanian Bogor. Bogor.
- Waliszewski, K.N., M.A. Aparicio, L.A. Bello, J.A. Monroy. 2003. Changes of Banana Starch by Chemical and Physical Modification. *Carbohydrate Polimers* 52: 237-242.
- Wandrey, C., A. Bartkowiak, S.E. Harding. 2010. *Materials for Encapsulation*. In: N.J. Zuidam and V.A. Nedović, Eds., *Encapsulation Technologies for Active Food Ingredients and Food Processing*. Springer Science and Business Media.
- Wani, A.A., Preeti S., Manzoor A.S., Ute S., Weisz, Khalid G., Idrees A.W. 2012. Rice Starch Diversity: Effects on Structural, Morphological, Thermal, and Physicochemical Properties — A Review. *Comprehensive Reviews in Food Science and Food Safety* 11(5): 417-436.
- Wati, E. N. 2017. Modifikasi Tepung Jalar (*Ipomoea batatas* L.) Menggunakan *Steam Explosion*. *Skripsi*. Fakultas Teknologi Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Widowati, S. 2001. Pemanfaatan Hasil Samping Penggilingan Padi dalam Menunjang Sistem Agroindustri di Pedesaan. *Buletin AgroBio*. 4: 33-38.
- Winarno, F. G. 2002. *Kimia Pangan dan Gizi*. Gramedia Pustaka Utama. Jakarta.
- Wulandari, D. 2010. Karakteristik Fisik Pati Sagu (*Metroxylon* sp) yang Dimodifikasi dengan Teknik *Heat Moisture Treatment* (HMT). *Tesis*. Sekolah Pascasarjana. Institut Pertanian Bogor. Bogor.



- Yang, M., Li W., Liu B., Li Q., Xing J. 2010. High-concentration Sugars Production from Corn Stover based on Combined Pretreatments and Fed-batch Process. *Bioresource Technology* 101: 4884–4888.
- Yuliana. 2011. Karakterisasi Prigelatinisasi Pati Singkong Fosfat yang Dibuat dengan Menggunakan Natrium Tripolifosfat sebagai Eksipien dalam Sediaan Farmasi. *Skripsi*. Fakultas Matematika dan Ilmu Pengetahuan Alam. Universitas Indonesia. Jakarta.
- Zhang, L.H., D. Li, L.J. Wang, T.P. Wang, L. Zhang, X.D. Chen, Z.H. Mao. 2008. Effect of Steam Explosion on Biodegradation of Lignin in Wheat Straw. *Bioresource Technology* 99: 8512-8515.
- Zheng, M., Z. J. Inn, Y. Zhang. 2007. Effect of Cross-Linking and Sterification on Hygroscopicity and Surface Activity of Cassava Maltodextrins. *Food Chemistry* 103: 1375-1379.