

## DAFTAR PUSTAKA

- Abd-El Fattah, S.M., A.Y. Hassan, H.M. Bayoum, and H.A. Eissa. 2010. The Use of Lemongrass Extracts as Antimicrobial and Food Additive Potential in Yoghurt. *J. Am. Sci.*, 6(11): 582–594.
- Adamiec, J. 2012. Microencapsulation of Kaffir Lime Oil and Its Functional Properties. *Drying Technology*, 30(9): 914–920.
- Adams, R.P. 2017. *Identification of Essential Oil Components By Gas Chromatography Mass Spectrometry*. Allured Publishing. ISBN 978-1-932633-21-4.
- Agustin, S. 2011. Kajian Pengaruh Hidrokoloid dan CaCl<sub>2</sub> terhadap Profil Gelatinisasi Bahan Baku serta Aplikasinya pada Bihun Sukun. *Tesis*. Institut Pertanian Bogor.
- Agustina, K., D. Sopandie, Trikoesoemaningtyas, and D. Wirnas. 2010. Physiological Response of Sorghum (*Sorghum bicolor* L. Moench) Roots to Aluminium Toxicity and Phosphorous Deficiency. (in Indonesian). *Jurnal Agronomi Indonesia (Indonesian Journal of Agronomy)*, 38(2): 88-94.
- Ali, D.Y., P. Darmadji, and Y. Pranoto. 2014. Optimasi Nanoenkapsulasi Asap Cair Tempurung Kelapa Dengan Response Surface Methodology dan Karakterisasi Nanokapsul. *Jurnal Teknologi dan Industri Pangan*, 1(25).
- Ali, N.A., K.D. Kshirod, and R. Winny. 2020. Physicochemical characterization of modified lotus seed starch obtained through acid and heat moisture treatment. *Food Chemistry*, 319: 1-10.
- Alvira, P., E. Tomás-Pejó, M. Ballesteros, and M.J. Negro. 2010. Pretreatment Technologies For an Efficient Bioethanol Production Process Based on Enzymatic Hydrolysis: A review. *Bioresource Technology*, 101(13): 4851–4861.
- Anandharamakrishnan, C. and I.S. Padma. 2015. *Spray Drying Techniques For Food Ingredient Encapsulation*. Wiley Publishing Ltd, Iowa, USA.
- Anonim. 2019. [www.data.un.org](http://www.data.un.org). diakses pada 26 Februari 2019 pukul 20.27.
- AOAC, 2005. Official Methods of Analysis of Association of Official Analytical Chemists. AOAC, Inc. Arlington, Virginia.
- Astuti, R.M., Widaningrum, N. Asiah, A. Setyowati, and R. Fitriawati. 2018. Effect of Physical Modification on Granule Morphology, Pasting Behavior, and Functional Properties of Arrowroot (*Marantha arundinacea* L) Starch. *Food Hydrocolloids*, 81: 23-30.
- Attokaran, M., 2011. *Natural Food Flavors and Colorants*. Blackwell Publishing Ltd, Iowa, USA.

- Avaltroni, F., P.E. Bouquerand, and V. Normand. 2004. Maltodextrin Molecular Weight Distribution Influence on The Glass Transition Temperature and Viscosity in Aqueous Solutions. *Carbohydrate Polymer*, 58: 323-334.
- Babu, A. S., R. Parimalavalli, K. Jagannadham, and J.S. Rao. 2015. Chemical and Structural Properties of Sweet Potato Starch Treated with Organic and Inorganic Acid. *Journal of Food Science and Technology*, 52(9): 5745–5753.
- Bae, K.E and S.J. Lee. 2008. Microencapsulation of Avocado Oil by Spray Drying Using Whey Protein and Maltodextrin. *Journal of Microencapsulation*, 25: 549-560.
- Bamforth, C.H. 2005. *Food Fermentation and Microorganisms*. Blackwell Publishing Ltd, Iowa, USA.
- Belewu, M.A., A.M. Ahmed El-Imam, K.D. Adeyemi, and S.A. Oladunjoye. 2012. Eucalyptus Oil and Lemongrass Oil: Effect on Chemical Composition and Shelf-life of Soft Cheese. *Environ. Nat. Resour. Res.*, 2(1): 114–118.
- Ben, E.S., Zulianis and A. Halim. 2007. Studi Awal Pemisahan Amilosa dan Amilopektin Pati Singkong dengan Fraksinasi Butanol-Air. *Jurnal Sains dan Teknologi Farmasi*, 12(1): 1-11.
- Benesi, R.M. Ibrahim, M.T. Labuschagne, A.G.O. Dixon, and N.M. Mahungu. 2004. Stability of native starch quality parameters, starch extraction and root dry matter of cassava genotypes in different environments. *J Sci Food Agri*, 84: 1381-1388.
- BeMiller, J.N. and R.L. Whistler. 1996. *Carbohydrates*. Di dalam: *Food Chemistry*. Fennema OR, editor. New York : Marcel Dekker Inc.
- BeMiller, J. and R. Whitsler. 1984. *Starch Chemistry and Technology*. Second Edition. Macmillan Publishing. Elsevier.
- BeMiller, J. and R. Whitsler. 2009. *Starch Chemistry and Technology*. Third Edition. Macmillan Publishing. Elsevier.
- Ben, E.S., Zulianis and A. Halim. 2007. Studi Awal Pemisahan Amilosa dan Amilopektin Pati Singkong dengan Fraksinasi Butanol-Air. *Jurnal Sains dan Teknologi Farmasi*, 12(1): 1-11.
- Beta, T. and Corke. 2001. Noodle Quality as Related to Sorghum Starch Properties. *Cereal Chemistry*, 78: 417-420.
- Bhandari, B.R., E.D. Dumoulin, H.M.J. Richard, I. Noleau, and A.M. Lebert. 1992. Flavor Encapsulation by Spray Drying: Application to Citral and Linalyl Acetate. *Journal of Food Science*, 57(1): 217-221.
- Biduski, B., T.S. Francine, M.S. Wyller, L.M.E.H. Shanise, Z.P. Vania, R.G.D. Alvaro, and R.Z. Elessandra. 2017. Impact of Acid and Oxidative Modifications, Single or Dual, of Sorghum Starch on Biodegradable Films. *Food Chem*. 214: 53–60.

- Cai, Y.Z. and H. Corke. 2000. Production and Properties of Spray-Dried Amaranthus Betacyanin Pigments. *Journal of Food Science*, 65: 1248-1252.
- Cano-Chauca, M., P.C. Stringheta, A.M. Ramos, and J. Cal-Vidal. 2005. Effect of The Carriers on The Microstructure of Mango Powder Obtained by Spray Drying and Its Functional Characterization. *Innovative Food Science and Emerging Technologies*, 6: 420-428.
- Carlini, E.A., J. Contar, A. Silva-Filho, N. D. Silveira-Filho, Frochtengarten, and M. Bueno. 1986. Pharmacology of Lemongrass (*Cymbopogon citratus* Stapf.). I. Effects of Tea Prepared From the Leaves on Laboratory Animals. *J. Ethnopharmacol*, 17: 37-64.
- Carlson, L.H.C., R.A.F. Machado, C.B. Spricigo, L.K. Pereira, and A. Bolzan. 2001. Extraction of Lemongrass Essential Oil with Dense Carbon Dioxide. *J. Supercrit. Fluids*, 21: 33-39.
- Carvalho, G.R., V.B.F. Regiane, C.S. Priscila, L.A.D. Anelise, R.O. Cassiano, V.B. Soraia, and A.B. Diego. 2019. Influence of Modified Starches as Wall Materials on The Properties of Spray-Dried Lemongrass Oil. *J. Food Sci Technol*: 1-10.
- Chen, J. and J. Jane. 1994. Preparation of Granular Cold Water Soluble Starches by Alcoholic-Alkaline Treatment. *Carbohydrates*, 71(6): 618-622.
- Chen, Z., H.A. Schols, and A.G.J. Voragen. 2003. Physicochemical Properties of Starches Obtained from Three Varieties of Chinese Sweet Potatoes. *Food Chemistry and Toxicology*, 68(2): 431-437.
- Collado, L.S., L.B. Mabesa, C.G. Oates and H. Corke. 2001. Bihon-type of Noodles from Heat Moisture Treated Sweet Potato Starch. *Journal Food Science*, 66(4): 604-609.
- Colussi, R., V.Z. Pinto, S.L.M.E. Halal, N.L. Vanier, F.A. Villanova, R.M. Silva, E.D.R. Zavareze, and A.R.G. Dias. 2014. Structural, Morphological, and Physicochemical Properties of Acetylated High-Medium-, and Low-Amylose Rice Straches. *Carbohydrate polymers*, 103: 405-413.
- Comunian, T.A., T. Marcelo, J.G.A. Ana, E.M.J. Fernando, C.C.B. Julio, and S.F. Carmen. 2013. Microencapsulation of Ascorbic Acid by Complex Coaservation: Protection and Controlled Release. *Food Research International*, 52: 373-379.
- Cruz, D.B., W.S.V. Da Silva, I.P. D. Santos, E.D.R. Zavareze, and M.C. Elias. 2015. Structural and Technological Characteristics of Starch Isolated From Sorghum as a Function of Drying Temperature and Storage Time. *Carbohydrate Polymers*, 133, 46-51.
- Davydova, N.I., S.P. Leont'ev, Y.V. Genin, A.Y. Sasov, and T.Y. Bogracheva. 1995. Some Physicochemical Properties of Smooth Pea Starches. *Carbohydrate Polymers*, 27, 109-115.

- Boer, C.D. 2005. Organic Lemon Grass: A Guide for Small Holders. *EPOPA*, 6720 AB Bennekom, The Netherlands.
- Deeyai, P., M. Suphantarika, R. Wongsagonsup, and S. Dangtip. 2013. Characterization of Modified Tapioca Starch in Atmospheric Argon Plasma Under Diverse Humidity by FTIR Spectroscopy. *Chinese Physics Letters*, 30(1): 1-4.
- Desai, K.G.H and H.J. Park. 2005. Encapsulation of Vitamin C in Tripolyphosphate Cross-linked Chitosan Microspheres by Spray Drying. *Journal of Microencapsulation*, 2(22):179-192
- Dewi, R.K., Supriyanto and Y. Pranoto. 2018. Modifikasi Pati Singkong dengan Kombinasi Metode Steaming dan Hidrolisis Asam serta Penggunaannya sebagai Enkapsulan pada Nanoenkapsulasi Ekstrak Kasar Daun Kakao. *Thesis*. Universitas Gadjah Mada.
- Dokic, L., J. Jakovljevic, and P. Dokic. 2004. Relation Between Viscous Characteristics and Dextrose Equivalent of Maltodextrins. *Starch-Starke*, 56:520-525.
- El-Messery, T.M., A. Umit, A. Gokce, and O. Beraat. 2020. The Effect of Spray-Drying and Freeze-Drying on Encapsulation Efficiency, In Vitro Bioaccessibility and Oxidative Stability of Krill Oil Nanoemulsion System. *Food Hydrocolloids*, 106: 1-9.
- Elson, C.E., G.L. Underbakke, P. Hanson, E. Shrago, R.H. Wainberg, and A.A. Qureshi. 1989. Impact of Lemongrass Oil, an Essential Oil, On Serum Cholesterol. *Lipids*, 24:677-679.
- Ezhilarasi, P.N., D. Indrani, B.S. Jena, and C. Anandharamakrishnan. 2013. Freeze drying technique for microencapsulation of *Garcinia* fruit extract and its effect on bread quality. *Journal of Food Engineering*, 117: 513-520.
- Fardiaz, D., A. Apriyanti, S. Yasni, S. Budiyo, and N.L. Puspitasari. 1986. *Penuntun Praktikum Analisa Pangan*. Institut Pertanian Bogor.
- Farre, I. and J.M. Faci. 2004. Comparative Response Of Maize (*Zea mays* L.) and Sorghum (*Sorghum bicolor* L. Moench) To Irrigation Deficit In a Mediterranean Climate. *Proceedings of the 4th International Crop Science Congress Brisbane, Australia*, 26 Sep-1 Oct 2004 | ISBN 1 920842 20 9 | [www.cropsociety.org.au](http://www.cropsociety.org.au).
- Fernandez, R.V.B., V.B. Soraia, and A.B. Diego. 2014. Gum Arabic/Starch/Maltodextrin/Inulin as Wall Materials on The Microencapsulation of Rosemary Essential Oil. *Carbohydrate Polymer*, 101: 524-532.
- Fleche. 1985. Chemical Modification and Degradation Starch. *Starch*, 4:1-11.
- Gani, A., T. Gazanfar, R. Jan, S.M. Wani, and F.A. Masoodi. 2013. Effect Of Gamma Irradiation On The Physicochemical And Morphological Properties of Starch Extracted From Lotus Stem Harvested From Dal Lake

- of Jammu and Kashmir, India. *Journal of the Saudi Society of Agricultural Sciences*, 12: 109-115.
- Gonzalez, R.T., M.C. Anon, A.M.R. Pilosof and K. Martinez. 2007. Amaranth Starch-Rich Fraction Properties Modified By High-Temperature Heating. *Journal of Food Chemistry*, 103: 927-934.
- Gordillo, C.A.S., G.A. Valencia, R.A.V. Zapata, and A.C.A. Henao. 2014. Physicochemical Characterization of Arrowroot Starch (*Maranta arundinacea* Linn) and Glycerol/Arrowroot Starch Membranes. *International Journal of Food Engineering*, 10(4): 727-735.
- Greenwood, C.T. and D.N. Munro. 1979. *Carbohydrates*. Di dalam: T.R. Muchtadi, P. Hariyadi, and A.B. Ahza. 1987. *Teknologi Pemasakan Ekstrusi*. Pusat Antar Universitas. Institut Pertanian Bogor. Bogor.
- Guo, K, W. Zou , Y. Feng, M. Zhang, J. Zhang, F. Tu, G. Xie, L. Wang, Y. Wang, S. Klie, S. Persson, and S. Déjean. 2014. An Integrated Genomic And Metabolomic Framework For Cell Wall Biology In Rice. *BMC Genomics*, 15: 596.
- Gupta, S., K. Saima, M. Malik, K. Manoj, K.Y. Arvind, and P.G. Ajai. 2006. *Encapsulation: Entrapping Essential Oil/Flavors/Aromas In Food*. Chapter 6. In book *Encapsulations*. Pp:229-268.
- Hanaa, R.M., Y.I. Sallam, A.S. El-Leithy, S.E. Aly. 2012. Lemongrass (*Cymbopogon citratus*) Essential Oil As Affected By Drying Methods. *Ann. Agric. Sci.*, 57(2): 113–116.
- Harper, J.M. 1990. *Extrusion of Foods Volume I*. CRC Press, Boca Roton, Florida.
- Hidayat. 2008. Modification of Cassava Starch with Acid Hydrolysis Methods and Its Application as Wall Material For Liquid Smoke Microencapsulation Process. *Thesis*. Universitas Gadjah Mada.
- Hoover, R. 2000. Acid-Treated Starches. *Food Reviews International*, 16(3): 369-392.
- Hoover, R., T. Hughes, H.J. Chung, and Q. Liu. 2010. Composition, Molecular Structure, Properties, and Modification of Pulse Starches: A review. *Food Research International*, 43: 399-413.
- Hu, Qiulong, X. Su, L. Tan, X. Liu, A. Wu, D. Su, K. Tian, and X. Xiong. 2013. Effect of a Steam Explosion Pretreatment on Sugar Production by Enzymatic Hydrolysis and Structural Properties of Reed Straw. *Biosci. Biotechnol. Biochem*, 77(11): 2181-2187.
- Hutchings, J.B. 1994. *Food Color and Appearance*. Blackie Academic & Professional.
- ICC-Draft-Standard N162. 1995. *Rapid pasting method using the Newport Rapid Visco Analyser*. ICC-Draft-Standard.
- Imanningsih, N. 2012. Profil Gelatinisasi Beberapa Formulasi Tepung-Tepungan untuk Pendugaan Sifat Pemasakan. *Penel Gizi Makan*, 35(1).



- Iroba, K.L., G.T. Lope, S. Shahab, and T. Dumonceaux. 2014. Pretreatment and Fractionation of Barley Straw Using Steam Explosion at Low Severity Factor. *Biomass and Bioenergy*, 66: 286-300.
- Jacquet, N., G. Maniet, C. Vanderghem, F. Delvigne, and A. Richel. 2015. Application of Steam Explosion as Pretreatment on Lignocellulosic Material: A Review. *Ind. Eng. Chem. Res.*, 54: 2593-2598.
- Jafari, S.M., E. Assadpoor, Y. He, and B. Bhandari. 2008. Encapsulation Efficiency of Food Flavours and Oils During Spray Drying. *Drying Technology*, 26: 816-835.
- Jenkins, P.J. and A.M. Donald. 1997. The Effect Of Acid Hydrolysis On Native Starch Granule Structure. *Starch-Starke*, 49(7-8) 262-267.
- Jovanovic, J., K. Slobodan, C. Jovana, R. Aleksandar, P. Tatjana, B. Goran and B. Zorica. 2020. Effect of Encapsulated Lemongrass (*Cymbopogon citratus* L.) Essential Oil Againsts Potato Tubers Moth *Phthorimaea operculella*. *Crop Protection*, 132: 1-5.
- Kartikasari, S.N., P. Sari, and S. Achmad. 2016. Karakteristik Sifat Kimia, Profil Amilograf (RVA) Dan Morfologi Granula (SEM) Pati Singkong termodifikasi Secara Biologi. *Jurnal Agroteknologi*, 1(10):12-24.
- Kaur, L. and J. Singh. *Starch: Modified Starches*. In: Caballero B, Finglas PM, Toldrá F, editors. Encyclopedia of food and health. Oxford: Academic. 2016. p: 152-9.
- Kearsley, M.W. and S. Z. Dziedzic. 1995. *Handbook of Starch Hydrolysis Product and their Derivatives*. Springer.
- Kemenperin. 2019. [www.kemenperin.go.id](http://www.kemenperin.go.id). diakses pada tanggal 5 Maret 2019 pukul 23.04.
- Khaushik, V. and H.R. Yrjo. 2007. Limonen Encapsulation in Freeze-Drying of Gum Arabic-Sucrose-Gelatin Systems. *LWT*, 40: 1381-1391.
- Kotzekidou, P., P. Giannakidis, and A. Boulamatsis. 2008. Antimicrobial Activity of Some Plant Extracts and Essential Oils Against Foodborne Pathogens In Vitro and on The Fate of Inoculated Pathogens in Chocolate. *LWT*, 41: 119-127.
- Kpoviessi, S., J. Bero, P. Agbani, F. Gbaguidi, B. Kpadonou-Kpoviessi, B. Sinsin, G. Accrombessi, M. Frédéric, M. Moudachirou, and J. Quetin-Leclercq. 2014. Chemical Composition, Cytotoxicity And In Vitro Antitrypanosomal And Antiplasmodial Activity Of The Essential Oils Of Four Cymbopogon Species From Benin. *Journal of Ethnopharmacology*, 151: 652-659.
- Kurosumi, A., C. Sasaki, K. Kumada, F. Kobayashi, G. Mtui, and Y. Nakamura. 2007. Novel Extraction Method Of Antioxidant Compounds From Sasa Palmata (Bean) Nakai Using Steam Explosion. *Process Biochem*, 42: 1449- 1453.

- Lawal, O.S. and K.O. Adebawale. 2005. An Assessment of Changes in Thermal and Physic-Chemical Parameters of Jack Bean (*Canavalia Ensiformis*) Starch Following Hydrothermal Modifications. *European Food Research and Technology*, 221: 631-638.
- Leimann, F.V., O.H. Goncalves, R.A.F. Machado, and A. Bolzan. 2009. Antimicrobial Activity of Microencapsulated Lemongrass Essential Oil and The Effect of Experimental Parameters on Microcapsules Size and Morphology. *Material Science and Engineering*, 29:430-436.
- Lermen, C., F. Morelli, Z.C. Gazim, A.P. Silva, J.E. Goncalves, D.C. Dragunski, and O. Alberton. 2015. Essential Oil Content and Chemical Composition of *Cymbopogon citratus* Inoculated with Arbuscular Mycorrhizal Fungi Under Different Levels of Lead. *Industrial Crops and Product*, 76: 734-738.
- Leite, J.R., L. SeabraMde, E. Maluf, K. Assolant, D. Suchecki, S. Tufik, S. Klepacz, H.M. Calil and E.A. Carlini, E.A. 1986. Pharmacology Of Lemongrass (*Cymbopogon citratus* Stapf). Iii. Assessment Of Eventual Toxic, Hypnotic And Anxiolytic Effects On Humans. *J. Ethnopharmacol*, 17: 75-83.
- Li, G., M. Chen, F. Li, J. Zeng, and J. Sun. 2017. Effect Of Steam Explosion Pre-Treatment On Molecular Structure Of Sweet Potato Starch. *Tropical Journal of Pharmaceutical Research*, 16(5): 1113-1119.
- Li, G., L. Pang, F. Li, J. Zeng, and J. Sun. 2017. Preparation of Resistant Sweet Potato Starch by Steam Explosion Technology Using Response Surface Methodology. *Tropical Journal of Pharmaceutical Research*, 16(5): 1121-1127.
- Li, L., T.Z. Yuan, R. Setia, R.B. Raja, B. Zhang, and Y. Ai. 2019. Characteristics Of Pea, Lentil and Faba Bean Starches Isolated From Airclassified Flours In Comparison With Commercial Starches. *Food Chemistry*, 276: 599-607.
- Liu. 2005. *Understanding Starches and Their Role in Foods*. Chapter 7 in Food Carbohydrates: Chemistry, Physical Properties, and Applications. CRC: Technology and Engineering.
- Loksuwan. 2007. Characteristics Of Microencapsulated B-Carotene Formed By Spray Drying With Modified Tapioca Starch, Native Tapioca Starch And Maltodextrin. *Food Hydrocolloids*, 21: 928-935.
- Manuel, H. J. 1996. The Effect of Heat-Moisture Treatment on The Structure and Physicochemical Properties of Legume Starches. *Thesis*. Department of Biochemistry, Memorial University of Newfoundland Canada.
- Marais, J. P., J.L. Wit, and G.V. Quicke. 1966. A Critical Examination Of The Nelson-Somogyi Method For The Determination Of Reducing Sugars. *Analytical Biochemistry*, 15(3), 373-381.
- Marchal, L.M., H.H. Beftink, and J. Tramper. 1999. Towards A Rational Design Of Commercial Maltodextrins. *Trends in Food Science and Technology*, 10(11), 345-355.

- Marta, H., Marsetio, Y. Cahyana, and A.G. Pertiwi. 2016. Sifat Fungsional Dan Amilografi Pati Millet Putih (*Pennisetum Glaucum*) Termodifikasi Secara Heat Moisture Treatment Dan Annealing. *Jurnal Aplikasi Teknologi Pangan*, 5(3): 76-84.
- Masina, N. 2017. A Review Of The Chemical Modification Techniques Of Starch. *Carbohydrate Polymer*, 157:1226–36.
- Masniyom, P., O. Benjama, and J. Maneesri. 2012. Effect Of Turmeric And Lemongrass Essential Oils And Their Mixture On Quality Changes Of Refrigerated Green Mussel (*Perna Viridis*). *Int. J. Food Sci. Technol*, 47(1): 1079–1085.
- Mehboob, S., T.M. Ali, F. Alam, and A. Hasnain. 2015. Dual Modification Of Native White Sorghum (*Sorghum Bicolor*) Starch Via Acid Hydrolysis And Succinylation. *LWT*, 64(1): 459–467.
- Mishra, A.K. and N.K. Dubey. 1994. Evaluation Of Some Essential Oils For Their Toxicity Against Fungi Causing Deterioration Of Stored Food Commodities. *Appl. Environ. Microbiol*: 60, 1101–1105.
- Mollan, M.J., and M. Çelik. 1993. Characterization of Directly Compressible Maltodextrins Manufactured by Three Different Processes. *Drug Development and Industrial Pharmacy*, 19(17–18), 2335–2358.
- Moore, G.R.P. and L.R.E.R. Amante. 2005. Cassava and Corn Starch in Maltodextrin Production. *Quim Nova*, 28(4): 596-600.
- Moore-Neibel, K., C. Gerber, J. Patel, M. Friedman and S. Ravishankar. 2011. Antimicrobial Activity Of Lemongrass Oil Against *Salmonella Enterica* On Organic Leafy Greens. *J. Appl. Microbiol*, 112: 485–492.
- Mosier, N., C.E. Wyman, B.E. Dale, R.T. Elander, Y.Y. Lee, M. Holtzapple, and M. Ladisch. 2005. Features Of Promising Technologies For Pretreatment Of Lignocellulosic Biomass. *Bioresour. Technol*, 96: 673- 686.
- Mucha, J.W., M. Hasani, and H. Theliander. 2017. Bioresource Technology Hydrothermal Pretreatment Of Wood By Mild Steam Explosion And Hot Water Extraction. *Bioresource Technology*, 241: 120–126.
- Mulyani, A., S. Ritung, and I. Las. 2011. Potential And Availability Of Land Resources To Support Food Security. (In Indonesian). *Journal Litbang Pertanian*, (3)2: 73-80.
- Nagai, Y., N. Matubayasi, and M. Nakahara. 2004. Hot Water Induces an Acid-Catalyzed Reaction in Its Undissociated Form. *Bull. Chem. Soc. Jpn*, 77: 691-697.
- Negrelle, R.R.B. and E.C. Gomes. 2007. *Cymbopogon citratus* (D.C.) Stapf. Chemical Composition And Biological Activities. *Rev. Plantas Medicinai*s: 9: 80–92.
- Negro, M.J., P. Manzanares, J.M. Olive, I. Ballesteros, and M. Ballesteros. 2003. Changes In Various Physical/Chemical Parameters Of *Pinus Pinaster*



- Wood After Steam Explosion Pretreatment. *Biomass and Energy*, 25: 301-308.
- Nhan, N.P.T., T.T. Vo, H.C. Mai, D.L. Tri, C.H. Nguyen, T.H.N. Le, T.T. Tran, T.T. Quoc and G.B. Long. 2020. Microencapsulation of Lemongrass (*Cymbopogon citratus*) Essential Oil Via Spray Drying: Effects of Feed Emulsion Parameters. *Processes*, 8(40): 1-13.
- Ohgren, K., R. Bura, J. Saddler, and G. Zacchi. 2007. Effect Of Hemicellulose And Lignin Removal On Enzymatic Hydrolysis Of Steam Pretreated Corn Stover. *J. Bioresource Technology*. 98 : 2503-2510.
- Olayinka, O.O., K.O. Adebawale, and B.I. Olu-Owolabi. 2008. Effect Of Heat-Moisture Treatment On Physicochemical Properties Of White Sorghum Starch. *Food Hydrocolloids*, 22: 225-230.
- Olayinka, O.O., K.O. Adebawale, and I.B. Olu-Owolabi. 2013. Physicochemical Properties, Morphological And X-Ray Pattern Of Chemically Modified White Sorghum Starch. (*Bicolor-Moench*). *J Food Sci Technol*, 50(1): 70-77.
- Pangestu, A. 2016. Karakterisasi Sifat Fisikokimia dan Potensi Prebiotik Tepung Garut (*Maranta arundinacea*) dengan Perlakuan Steam Flash- Explosion. *Tesis*. Fakultas Teknologi Pertanian Universitas Gadjah Mada.
- Patel, R.P., M.P. Patel, and A.M. Suthar. 2009. Spray Drying Technology : an Overview. *Indian Journal of Science and Technology*, 22(10) : 44-47.
- Pawoko, H.E., P. Darmaji and Y. Pranoto. 2017. Modifikasi Pati Garut (*Maranta arundinacea* L.) Menggunakan Perlakuan Steam Explosion. *Tesis*. Universitas Gadjah Mada.
- Pramesta, L.D., D. Rahmawati, Kawiji, and B.K. Anandito. 2012. Karakterisasi Bubur Bayi Instan Berbahan Dasar Tepung Millet (*Panicum sp*) dan Tepung Kacang Merah (*Phaseolus vulgaris* L) dengan Flavor Alami Pisang Ambon (*Musa paradisiacal* var. *sapientum* L). *Jurnal Teknosains Pangan*, 1(1).
- Rahim, A., G.S. Hutomo, N. Rahman, and S.A.H. Bohari. 2019. Structure And Functional Properties Of Arenga Starch By Acetylation With Different Concentrations Of Acetic Anhydride. *Asian J. Sci. Res*, 12: 220-228.
- Raja, K.C.M., B. Sankarikutty, M. Sreekumar, A. Jayalekshmy, and C.S. Narayanan. 1989. Material Characterization Studies of Maltodextrin Samples for the Use of Wall Material. *Starch - Stärke*, 41(8), 298-303.
- Ramos, L.P. 2003. The Chemistry Involved in The Steam Treatment of Lignocellulose Materials. *Quim. Nova*, 26(6): 863-871.
- Reineccius, 2004. The Spray Drying of Food Flavours. *Drying Technology*, 22(6): 1289-1324.
- Reineccius, G.A., R. Liardon, and Z. Luo, 2003. The retention of aroma compounds in spray dried matrices during encapsulation and storage. *Flavour*

*Research at the Dawn of the Twenty First Century* Lavoisier, Tec & Doc, Cachan, France.

- Reineccius, G.A. and J.B. Mei. 2004. The Influence of Food Texture on Aroma Release from Dairy Foods. *American Chemical Society*. pp.166.
- Richana, N., A. Budiyo, and I. Mulyawati. 2010. Pembuatan Tepung Jagung Termomodifikasi dan Pemanfaatannya untuk Roti. *Prosiding Pekan Sereal Nasional*, ISBN: 978-979-8940-29-3.
- Rosenberg, M., I.J. Kopelman, dan Y. Talmon, 1985. Scanning Elektron Microscopy Study of Microencapsulation, *J. Food Science*, 50: 1138-44.
- Sahari, J., S.M. Sapuan, E.S. Zainudin, and M.A. Maleque. 2014. Physico-chemical and Thermal Properties of Starch Derived from Sugar Palm Tree (*Arenga pinnata*). *Asian Journal of Chemistry*, 26(4): 955-959.
- Saloko, S., P. Darmadji, B. Setiaji, and Y. Pranoto. 2012. Structural Analysis Of Spray Dried Coconut Shell Liquid Smoke Powder. *J. Teknol dan Industri Pangan*, 23:173-179.
- Santoso, B., F. Pratama, B. Hamzah, and R. Pambayun. 2015. Karakteristik Fisik dan Kimia Pati Ganyong dan Gadung Termomodifikasi Metode Ikatan Silang. *Agritech*, 35(3): 273-279.
- Sandhu, K.S. and N. Singh. 2007. Some Properties Of Corn Starches II: Physicochemical, Gelatinization, Retrogradation, Pasting And Gel Textural Properties. *Food Chemistry*, 101(4): 1499–1507.
- Sansone, F.S., M. Teresa, P. Patrizia, D. Matteo, P.A. Rita and R.L. Maria. 2011. Maltodextrin/Pectin Microparticles By Spray Drying As Carrier For Nutraceutical Extracts. *Journal of Food Engineering*, 105: 468-478.
- Schoch, T.J. and E.C. Maywald. 1968. Preparation And Properties Of Various Legume Starches. *Cereal Chemistry*, 45:564-573.
- Singh, H., N.S. Sodhi, and N. Singh. 2009. Structure And Functional Properties Of Acid Thinned Sorghum Starch. *International Journal of Food Properties*, 12(4): 713–725.
- Singh, R.P. and D.R. Heldman. 2004. *Introduction of Food Engineering 4th edition*. Elsevier Inc. China.
- Singh, H., N.S. Sodhi, and N. Singh. 2010. Characterisation Of Starches Separated From Sorghum Cultivars Grown in India. *Food Chemistry*, 119: 95-100.
- Singh, J., R. Colussi, O.J. McCarthy, and L. Kaur. 2016. *Potato Starch and Its Modification*. Dalam Potato Chemistry and Technology: Second Edition, second ed. Elsevier Inc.
- Singhal, R.S., J.F. Kennedy, S.M. Gopalakrishnan, A. Kaczmarek, C.J. Knill, and P.F. Akmar. 2008. Industrial Production, Processing, And Utilization Of Sago Palm-Derived Products. *Carbohydrate Polymer*, 72: 1-20.
- Sitanggang, A.B., S. Budijanto, and Marisa. 2018. Physicochemical Characteristics Of Starch From Indonesian Numbu And Genjah Sorghum (*Sorghum bicolor* L. Moench). *Cogent Food & Agriculture*, 4: 1-9.

- Skoog, D.A, F.J. Holler, and T.A. Nieman. 1996. *Principles of Instrumental Analysis 5th edition*. New York: Saunders College Publishing.
- Sleper, D.A. and J.M. Poehlman. 2006. *Breeding Field Crops*. Fifth Edition. Blackwell Publishing, p:297 – 315.
- Smith, P.S. 1982. *Starch Derivatives and Their Uses in Foods*. Di dalam D.R. Lineback dan G.E. Inglett. *Food Carbohydrate*. AVI Publishing Co. Inc., Westport, Connecticut, p:5-23.
- Solikhin, A., S.H. Yusuf, Y.M. Muh, and N. Siti. 2017. Production of Microfibrillated Cellulose by Novel Continuous Steam Explosion Assisted Chemo-Mechanical Methods and Its Characterizations. *Waste Biomass Valor*: 1-12.
- Formigoni, M.L.S., H.M. Lodder, O. GianottiFilho, T.M. Ferreira, and E.A. Carlini. 1986. Pharmacology Of Lemongrass (*Cymbopogon citratus* Stapf). II. Effects Of Daily Two Month Administration In Male And Female Rats And In Offspring Exposed “In Utero”. *J. Ethnopharmacol*, 17: 65–74.
- Sudarmadji, B.H. and Suhardi. 2003. *Analisa Bahan Makanan dan Pertanian*. Kanisius. Yogyakarta.
- Suharjono, K.I., Supriyanto and Y. Pranoto 2018. Modifikasi Pati Singkong Dengan Kombinasi Steam Explosion Dan Oksidasi H<sub>2</sub>O<sub>2</sub> Serta Penggunaannya Sebagai Enkapsulan Pada Nanoenkapsulasi Ekstrak Kasar Daun Kakao. *Tesis*. Universitas Gadjah Mada.
- Sui, W. and H. Chen. 2016. Effects Of Water States On Steam Explosion Of Lignocellulosic Biomass. *Bioresource Technology*, 199: 155- 163.
- Sun, B., A. Huang, Y. Wang, and J. Liu. 2014. Natural Bamboo (*Neosinocalamus affinis* Keng) Fiber Identification Using FT-IR and 2D-IR Correlation Spectroscopy. *Journal Natural Fibers*. 12: 1-11.
- Supriyanto, H., R. Budi, and W.M. Djagal. 2006. Pengaruh Penyangraian Dengan Energi Gelombang Mikro Terhadap Polifenol Dalam Hancuran Keping Biji Kakao. *Agritech*, 26(3): 125-132.
- Suyitno, H., Supriyanto, B. Suksmadji, G. Haryanto, A.D Guritno, and W. Supartono, 1989. *Petunjuk Laboratorium Rekayasa Pangan*. PAU Pangan– Gizi, UGM, Yogyakarta.
- Syamsir, E., P. Hariyadi, D. Fardiat, N. Andarwulan, and F. Kusnandar. 2011. Karakterisasi Tapioka dari Lima Varietas Ubi Kayu Asal Lampung. *Jurnal Agroteknologi* 5(1): 93-105.
- Taggart, P. 2004. *Starch as an ingredients: Manufacture and Applications*. National Starch and Chemical, UK.
- Trikoesoemaningtyas, D.W., D. Sopandie, and T. Tesso. 2015. Genotypes X environment interaction effect on nutritional quality of sorghum lines in Indonesia. *Journal of Crop Breeding and Genetics*, 1(2): 26-31.
- Uhl, S.R. 2000. *Spices, Seasonings and Flavours*. CRC Press, Boca Raton.

- Utomo, M.P. 2008. Teori Asam-Basa. *Makalah Pengabdian Pada Masyarakat*. Universitas Negeri Yogyakarta, dalam Polnaya, F. J., Alfredo A. H., dan Gilian T. Karakteristik Sifat Fisiko-Kimia dan Fungsional Pati Sagu Ihur (*Metroxylon sylvestre*) Dimodifikasi dengan Hidrolisis Asam. *Agritech*, 38(1): 7-15.
- Vazirian, M., S.T. Kashani, M.R.S. Ardekani, M.M. Khanavi, H. Jamalifar, M.R. Fazeli, and A.N. Toosi. 2012. Antimicrobial activity of lemongrass (*Cymbopogon citratus* (DC) Stapf.) essential oil against food-borne pathogens added to cream-filled cakes and pastries. *J. Essent. Oil Res.*, 24 (6): 579–582.
- Wakelin, J.H., S.V. Hester, and C. Eugene. 1959. Development and Comparison of Two X-Ray Methods for Determining the Crystallinity of Cotton Cellulose. *Journal Applied Physics*, 30(2): 1654.
- Wang, S., L. Caili, C. Les, N. Qing, and W. Shuo. 2015. Starch Retrogradation: A Comprehensive Review. *Comprehensive Reviews in Food Science and Food Safety*, 14: 568-585.
- Wang, Y.J. and L. Wang. 2000. Structures and Properties of Commercial Maltodextrins from Corn, Potato, and Rice Starches. *Starch - Stärke*, 52(8–9): 296–304.
- Whorton, C. and A.R. Gary. 1995. Evaluation of the Mechanisms Associated with the Release of Encapsulated Flavor Materials from Maltodextrin Matrices. *Chapter 13*, In *Encapsulation and Controlled Release of Food Ingredients*; Risch, S., et al. ACS Symposium Series; American Chemical Society: Washington, DC.
- Winarno, F.G. 2004. *Kimia Pangan dan Gizi*. PT Gramedia Pustaka Utama. Jakarta.
- Wojtasz-Mucha, J., M. Hasani, and H. Theliander. 2017. Hydrothermal Pretreatment Of Wood By Mild Steam Explosion And Hot Water Extraction. *Bioresource Technology*, 241: 120–126.
- Wojtowicz, E., R.Z. Wojtasiak, J. Adamiec, E. Wasowicz, K. Przygonski, and M. Remiszewski. 2010. Odor Active Compounds Content in Spices and Their Microencapsulated Powders Measured by SPME. *Journal of Food Science*, 75(8): 5441-5445.
- Wurzburg, O.B. 1986. *Starch Properties, Modification, and Application*. CRC Press: Florida.
- Wurzburg, O.B., 1989. *Modified Starch : Properties and Uses*. Boca Raton : CRC Press Inc.
- Xu, W., K. Guizhen, W. Jihong, and W. Xungai. 2006. Modification of Wool Fiber Using Steam Explosion. *European Polymer Journal*, 42: 2168-2173.
- Yang, Q., W. Zhang, Y. Luo, J. Li, J. Gao, P. Yang, X. Gao, and B. Feng. 2019. Comparison Of Structural and Physicochemical Properties Of Starches From Five Coarse Grains. *Food Chemistry*, 288(February), 283–290.

- Yang, X., Y. Wang, K. Li, J. Li, C. Li, X. Shi, C. Ko, P. Leung, C. Ye, and X. Song. 2011. Cocoa tea (*Camellia ptilophylla* Chang), a natural decaffeinated Species of tea - Recommendations on the proper way of preparation for consumption. *Journal of Functional Foods*, 3(4): 305-312.
- Yeh, A.I.Y.S.L., 1993. Some Characteristics of Hydroxypropylated and Cross-Linked Rice Starch. *Cereal Chemistry*, 70: 596-601.
- Yu, Z., B. Zhang, F. Yu, G. Xu, and A. Song. 2012. A Real Explosion: The Requirement Of Steam Explosion Pretreatment. *Bioresource Technology*, 121: 335–341.
- Yuliani, S., Desmawarni, and N. Harimurti. 2007. Pengaruh Laju Alir Umpan dan Suhu Inlet Spray Drying pada Karakteristik Mikrokapsul Oleoresin Jahe. *J.Pascapanen*, 4(1): 18-26.
- Yuliasih, I., T.T. Irawadi, I. Sailah, H. Pranamuda, K. Setyowati and T.C. Sunarti. 2007. Pengaruh Proses Fraksinasi Pati Sagu Terhadap Karakteristik Fraksi Amilosanya. *Jurnal Teknologi Industri Pertanian*, 17(1): 29-36.
- Zhang, Y.R., X.L. Wang, G.M. Zhao, and Y.Z. Wang. 2012. Preparation and properties of oxidized starch with high degree of oxidation. *Carbohydrate Polymer*, 87: 2554–2562.
- Zheng, M.Q., Jin, Z.Y. and Zhang, Z.P. 2007. Effect of Cross Linking and Esterification on Hygroscopicity and Surface Activity of Cassava Maltodextrins. *Food Chemistry*, 103:1375-1379.