

DAFTAR PUSTAKA

- Abigor, R.D., W.N. Marmer, T.A. Foglia, K.C. Jones, R.J. DiCiccio, R. Ashby, and P.O. Uadia. 2003. Production of Cocoa Butter-like Fats by the Lipase-Catalyzed Interesterification of Palm Oil and Hydrogenated Soybean Oil. *J. Am. Oil Chem. Soc.* 80(12):1193-1196.
- Afoakwa, E. O., Paterson, A., Fowler, M., & Vieira, J. 2008. Particle Size Distribution And Compositional Effects On Textural Properties And Appearance Of Dark Chocolates. *Journal of Food Engineering*, 87(2), 181–190.
- AOCS. 2003. AOCS Official Method Cc3-25. Official Methods and Recommended Practices of the AOCS. Illinois: American Oil Chemist's Society Champaign.
- Badan Standardisasi Nasional. 2009. "Lemak Kakao. SNI 3748:2009."
- Basso, R. C., Ribeiro, A. P. B., Masuchi, M. H., Gioielli, L. A., Gonçalves, L. A. G., Santos, A. O. dos, Grimaldi, R. 2010. Tripalmitin and monoacylglycerols as modifiers in the crystallisation of palm oil. *Food Chemistry*, 122(4), 1185–1192.
- Berg JM, Tymoczko JL, Stryer L. 2002. Fatty Acids Are Key Constituents of Lipids. Biochemistry. 5th edition. New York: W H Freeman; 2002. Section 12.2. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK22497/>.
- Biswas, Nirupam, Yuen Lin Cheow, Chin Ping Tan, Sivaruby Kanagaratnam, and Lee Fong Siow. 2017. "Cocoa Butter Substitute (CBS) Produced from Palm Mid-Fraction/Palm Kernel Oil/Palm Stearin for Confectionery Fillings." *JAOCS, Journal of the American Oil Chemists' Society* 94 (2): 235–45.
- Cağındı O. , Otles S. 2007. Determination Of Some Physical And Sensory Properties Of Milk, Dark And White Chocolate At Different Storage Temperatures. *EJPAU Electronic Journal Of Polish Agricultural Universities* 10(4), #01.
- Calligaris, S., Valoppi, F., Barba, L., Anese, M., & Nicoli, M. C. 2014. Mutual effect of fat and β -carotene on fat crystal network structure and carotenoid bleaching. *Food Research International*, 66, 257–263.
- Calligaris, S., Valoppi, F., Barba, L., Anese, M., & Nicoli, M. C. 2018. β -Carotene degradation kinetics as affected by fat crystal network and solid/liquid ratio. *Food Research International*, 105, 599–604.
- Chen, B., McClements, D. J., & Decker, E. A. 2014. Impact Of Diacylglycerol And Monoacylglycerol On The Physical And Chemical Properties Of Stripped Soybean Oil. *Food Chemistry*, 142, 365–372.

- Chen, X.-W., Fu, S.-Y., Hou, J.-J., Guo, J., Wang, J.-M., & Yang, X.-Q. 2016. Zein based oil-in-glycerol emulgels enriched with β -carotene as margarine alternatives. *Food Chemistry*, 211, 836–844.
- Cheng, Z. F., Choo, Y. M., Ma, A. H., dan Chuah, C. H. 2005. Rapid Synthesis of Palm-based Monoacylglycerols. *Journal of American Oil Society*, 82(11): 791-795.
- Codex Alimentarius. 2003. Standard For Chocolate And Chocolate Products (CODEX STAN 87-1981, Rev. 1 - 2003). Diakses dari www.fao.org. Tanggal akses 7 Oktober 2018.
- Dauqan, E.M.A., Sani, H.A., Abdullah, A. dan Kasim, Z.M. 2011. Fatty Acids Composition Of Four Different Vegetable Oils (Red Palm Olein, Palm Olein, Corn Oil And Coconut Oil) By Gas Chromatography. International Conference on Chemistry and Chemical Engineering, hal: 31-34.
- Devi, A and Khatkar, B.S. 2018. Effects Of Fatty Acids Composition And Microstructure Properties Of Fats And Oils On Textural Properties Of Dough And Cookie Quality. *J Food Sci Technol*. 2018 Jan; 55(1): 321–330
- Devi, A. dan Khatkar, B.S. 2017. Thermo-Physical Properties of Fats and Oils. *International Journal of Engineering and Technical Research (IJETR)* ISSN: 2321-0869 (O) 2454-4698 (P), Volume-7, Issue-2, February 2017.
- Dong, S., Xia, H., Wang, F., dan Sun, G. 2017. The Effect of Red Palm Oil on Vitamin A Deficiency: A Meta-Analysis of Randomized Controlled Trials. *Nutrients* 2017, 9, 1281.
- Edem, D.O. dan Akpanabiatu, M.I. 2006. Effect of Palm Oil-Containing Diets on Enzyme Activities of Rats. *Pakistan Journal of Nutrition* 5 (4):301-3015.
- Ekantari, N., Budhiyanti, S.A., Fitriya, W., Hamdan, A.B., and Riaty, C. 2019. Stability Of Chocolate Bars Fortified With Nanocapsules Carotenoid of *Spirulina platensis*. The 2nd International Symposium on Marine Science and Fisheries (ISMF2) – 2019. IOP Conf. Series: Earth and Environmental Science 370 (2019) 012079.
- El-Hadad, N., Abou-Gharbia, H.A., El-Aal, M.H.A. dan Youssef, M.M. 2010. Red palm olein: Characterization And Utilization In Formulating Novel Functional Biscuits. *Journal of the American Oil Chemists Society* 87: 295- 304.
- El-Hadad, N., Youssef, M.M., El-Aal, M.H.A. dan Abou-Gharbia, H.A., dan. 2011. Utilisation Of Red Palm Olein In Formulating Functional Chocolate Spread. *Food Chemistry* Volume 124, Issue 1 Pages 285-290.
- Feltes MMC, de Oliveira D, Block JM, Ninow JL. 2013. The Production, Benefits, And Applications Of Monoacylglycerols And Diacylglycerols Of Nutritional Interest. *Food Bioprocess Technol*. 6: 17–35 (2013).

- Foubert, I., Vanbolleghem, P.A., Thas, O., dan Dewettinck, K. 2004. Influence Of Chemical Composition On The Isothermal Cocoa Butter Crystallization. *J. Food Sci.* 2004, 69(9), E478–E487.
- Glicerina, V., Balestra, F., Rosa, M.D., dan Romani, S. 2015. Microstructural and Rheological Properties of White Chocolate During Processing. *Food Bioprocess Technol* (2015) 8:770–776.
- Glicerina, V., Balestra, F., Rosa, M.D., dan Romani, S. 2016. Microstructural And Rheological Characteristics of Dark, Milk And White Chocolate: A Comparative Study. *Journal of Food Engineering* 169 (2016).
- Gunston, F. 2011. Vegetable Oils in Food Technology: Composition, Properties and Uses, Second Edition March 2011.
- Hasibuan H.A. dan Ijah. 2018. Peningkatan Kesukaan Minyak Sawit Merah Dengan Penambahan Minyak Nabati Atau Flavor Dan Stabilitasnya Dalam Penggorengan Berulang. *Jurnal Penelitian Kelapa Sawit*. 26(1): 1-9.
- Helgason, T., Awad, T. S., Kristbergsson, K., Decker, E. A., McClements, D. J., & Weiss, J. 2009. Impact of Surfactant Properties on Oxidative Stability of β -Carotene Encapsulated within Solid Lipid Nanoparticles. *Journal of Agricultural and Food Chemistry*, 57(17), 8033–8040.
- Jahurul, M. H. A., Zaidul, I. S. M., Nik Norulaini, N. A., Sahena, F., Abedin, M. Z., Mohamed, A., & Mohd Omar, A. K. (2014). Hard cocoa butter replacers from mango seed fat and palm stearin. *Food Chemistry*, 154, 323–329. doi:10.1016/j.foodchem.2013.11.098.
- Joshi, B. L., Zielbauer, B. I., & Vilgis, T. A. 2020. Comparative Study on Mixing Behavior of Binary Mixtures of Cocoa Butter/Tristearin (CB/TS) and Cocoa Butter/Coconut Oil (CB/CO). *Foods*, 9(3), 327. doi:10.3390/foods9030327
- Kadivar, S., De Clercq, N., Mokbul, M., & Dewettinck, K. 2016. Influence of enzymatically produced sunflower oil based cocoa butter equivalents on the phase behavior of cocoa butter and quality of dark chocolate. *LWT - Food Science and Technology*, 66, 48–55.
- Kannan, P.K.P. dan Gundappa, G.K.A. 2014. Impact of Different Deacidification Methods on Quality Characteristics and Composition of Olein and Stearin in Crude Red Palm Oil. *Journal of Oleo Science* 63 (12) 1209-1221.
- Karabulut I, Turan S, Ergin G. 2004. Effects Of Chemical Interesterification On Solid Fat Content And Slip Melting Point Of Fat/Oil Blends. *Eur Food Res Technol* 218: 224–229.
- Knockaert, G., Lemmens, L., Van Buggenhout, S., Hendrickx, M., & Van Loey, A. 2015. Changes in β -Carotene During Processing of Carrots. *Processing and Impact on Active Components in Food*, 11–16

- Lillah, Asghar, A., Pasha, I., Murtaza, G., & Ali, M. 2017. Improving heat stability along with quality of compound dark chocolate by adding optimized cocoa butter substitute (hydrogenated palm kernel stearin) emulsion. *LWT*, 80, 531–536. doi:10.1016/j.lwt.2017.02.042
- Lipp, M. & Anklam, E. 1998. Review Of Cocoa Butter And Alternative Fats For Use In Chocolate—Part A. Compositional data. *Food Chem.* 62: 73–97.
- Lohman, Myung H, and Richard W Hartel. 1994. Effect of Milk Fat Fractions on Fat Bloom in Dark Chocolate 71 (3): 267–76.
- Lončarević, I., Pajin, B., Aleksandar Fištes, A., Šaponjac, V. T., Petrović, J., Jovanović, P., Vulić, J., dan Zarić, D. 2018. Enrichment of white chocolate with blackberry juice encapsulate: Impact on physical properties, sensory characteristics and polyphenol content. *LWT - Food Science and Technology* 92 (2018) 458–464.
- Luna, P., Agustinisari, I, dan Hernani. 2019. Characterization of Monodiacylglycerol (MDAG) Synthesized from Papua Nutmeg (*Myristica Argantea* Warb). 2nd International Conference on Agriculture Postharvest Handling and Processing IOP Conf. Series: Earth and Environmental Science 309 (2019)
- Maheshwari B and Yella R.S. 2005. Application of kokum (*Garcinia indica*) fat as cocoa butter improver in chocolate. *Journal of the Science of Food and Agriculture*, 85: 135-140.
- Marangoni, A. G., & McGauley, S. E. 2003. Relationship between Crystallization Behavior and Structure in Cocoa Butter. *Crystal Growth & Design*, 3(1), 95–108.
- Marjan, A.Q., Marliyati, S.A., dan Ekayanti, I. 2016. Pengembangan Produk Pangan Dengan Substitusi Red Palm Oil Sebagai Alternatif Pangan Fungsional Tinggi Beta Karoten. *J. Gizi Pangan*, Juli 2016, 11(2):91-98.
- Márquez, A. L., Pérez, M. P., & Wagner, J. R. 2013. Solid Fat Content Estimation by Differential Scanning Calorimetry: Prior Treatment and Proposed Correction. *Journal of the American Oil Chemists Society*, 90(4), 467–473.
- Mayamol, P.N., Balachandran, C., Samuel, T., Sundaresan A., Arumughan, C., 2007. Process Technology for the Production of Micronutrient Rich Red Palm Olein. *J Amer Oil Chem Soc* (2007) 84:587–596.
- Misnawi. 2008. Karakteristik Campuran Lemak Kakao dan Stearin dalam Sistem Cokelat Susu. *Pelita Perkebunan* 2008, 24(3), 241-255.
- Motoyama, M. 2012. Structure And Phase Characterization Of Triacylglycerols by Raman Spectroscopy. *Bull Naro Inst Livest Grassl Sci* 12 (2012) : 19-68.
- Muhammad, D.R.A., Lemarcq, V., Alderweireldt, E., Vanoverberghe, P., Praseptianga, D., Juvinal, J.G., Dewettinck, K. 2020. Antioxidant Activity And

- Quality Attributes Of White Chocolate Incorporated With Cinnamomum Burmannii Blume Essential Oil. *J Food Sci Technol* (May 2020) 57(5):1731–1739.
- Naik, B. and Vijay Kumar. 2014. Cocoa Butter and Its Alternatives: A Reveiw. *Journal of Bioresource Engineering and Technology* 1 (October): 7–17.
- Nambiar, R. B., Sellamuthu, P. S., & Perumal, A. B. 2018. Development of Milk Chocolate Supplemented with Microencapsulated *Lactobacillus plantarum* HM47 and to Determine the Safety in a Swiss Albino Mice Model. *Food Control*, 94, 300–306.
- Nusantoro, B.P. 2009. Physicochemical Properties of Palm Stearin And Palm Mid Fraction Obtained By Dry Fractionation. *AGRITECH. Vol. 29* (3).
- Prasanth Kumar, P. K., Jeyarani, T., & Gopala Krishna, A. G. 2016. Physicochemical characteristics of phytonutrient retained red palm olein and butter-fat blends and its utilization for formulating chocolate spread. *Journal of Food Science and Technology*, 53(7), 3060–3072.
- Purnama, K.O., Setyaningsih, D., Hambali, E., dan Taniwiryo, D., 2020. Processing, Characteristics, and Potential Application of Red Palm Oil - a review. *International Journal of Oil Palm* Volume 3, Number 2, May 2020 Page 40-55.
- Qian, C., Decker, E. A., Xiao, H., & McClements, D. J. 2012. Physical and Chemical Stability of β -Carotene-Enriched Nanoemulsions: Influence Of pH, Ionic Strength, Temperature, and Emulsifier Type. *Food Chemistry*, 132(3), 1221–1229.
- Quast, L. B., Luccas, V., Ribeiro, A. P. B., Cardoso, L. P., & Kieckbusch, T. G. 2013. Physical properties of tempered mixtures of cocoa butter, CBR and CBS fats. *International Journal of Food Science & Technology*, 48(8), 1579–1588.
- Radwan, H. M., Masoud, M.R. Dan Dyab, A.S. 2017. Technological Studies For Producing Chocolate And Cream Products Containing Natural Antioxidants “Lycopene and Beta Carotene”. *Egypt. J. Agric. Res.*, 95 (3), 2017.
- Rao, N. 2002. Potential Use of Red Palm Oil in Combating Vitamin A Deficiency in India. *Food and Nutrition*, vol. 21, no. 2.
- Rodriguez Furlán, L. T., Baracco, Y., Lecot, J., Zaritzky, N., & Campderrós, M. E. 2017. Influence Of Hydrogenated Oil As Cocoa Butter Replacers In The Development Of Sugar-Free Compound Chocolates: Use Of Inulin As Stabilizing Agent. *Food Chemistry*, 217, 637–647.
- Rousset, P., Sellappan, P., & Daoud, P. 2002. Effect of Emulsifiers On Surface Properties Of Sucrose By Inverse Gas Chromatography. *Journal of Chromatography A*, 969(1-2), 97–101.

- Shahidan, N., Salleh, N.Z., Zakaria, Z., dan Anwar, N.Z.R. 2017. Glycemic Index of Chocolate Fortified with Pumpkin (*Cucurbita moshata*) And Taro (*Colocasia esculenta*) Powder And Its Effect On Mood And Cognitive Functions Of Female Students. *J Fundam Appl Sci.* 2017, 9(2S), 876-897.
- Shtay, R., Tan, C. P., & Schwarz, K. 2018. Development and characterization of solid lipid nanoparticles (SLNs) made of cocoa butter: A factorial design study. *Journal of Food Engineering*, 231, 30–41.
- Soares F. A. S. D. M.; Claro da Silva R.; Caroline Guimarães da Silva K.; Bertolossi Lourenço M.; Ferreira Soares D.; Antonio Gioielli L. 2009. Effects of chemical interesterification on physicochemical properties of blends of palm stearin and palm olein. *Food 261 Res. Int.*, 1287–1294.
- Solís-Fuentes, J. A., & Durán-de-Bazúa, C. 2003. Characterization of eutectic mixtures in different natural fat blends by thermal analysis. *European Journal of Lipid Science and Technology*, 105(12), 742–748. doi:10.1002/ejlt.200300810
- Sommerburg, O., Spirt, S.D., Mattern, A., Joachim, C., Langhans, C. D., Nesaretnam, K., Siems, W., Stahl, W., dan Mall, A. 2015. Supplementation with Red Palm Oil Increases Carotene and Vitamin A Blood Levels in Patients with Cystic Fibrosis. *Mediators of Inflammation* Volume 2015.
- Subroto, E. 2020. Monoacylglycerols And Diacylglycerols For Fat-Based Food Products: A Review. *Food Research* 4 (4) : 932 – 943.
- Subroto, E., Supriyanto, Utami, T., dan Hidayat, C. 2018. Enzymatic Glycerolysis–Intesterification Of Palm Stearin–Olein Blend For Synthesis Structured Lipid Containing High Mono- and Diacylglycerol. *Food Sci Biotechnol* 2018 Sep 14;28(2):511-517.
- Talbot, Geoff. 2012. Chocolate and Cocoa Butter—Structure and Composition. *Cocoa Butter and Related Compounds*, 1–33.
- Tannenbaum, G. 2004. Chocolate: A Marvelous Natural Product of Chemistry. *Journal of Chemical Education* Vol. 81 No. 8 August 2004.
- Tavernier, I., Moens, K., Heyman, B., Danthine, S., & Dewettinck, K. 2018. Relating crystallization behavior of monoacylglycerols-diacylglycerol mixtures to the strength of their crystalline network in oil. *Food Research International*. doi:10.1016/j.foodres.2018.10.092
- Teles dos Santos, M., Viana, I. S., Ract, J. N. R., & Le Roux, G. A. C. (2016). Thermal properties of palm stearin, canola oil and fully hydrogenated soybean oil blends: Coupling experiments and modeling. *Journal of Food Engineering*, 185, 17–25. doi:10.1016/j.jfoodeng.2016.03.029
- Toker, O.S., Konar, N., Pirouzian, H.R., Oba, S., Polat, D.G., Palabiyik, I., Poyrazoglu, E.S., Sagdic, O. 2018. Developing Functional White Chocolate By Incorporating Different forms of EPA and DHA - Effects on product quality. *LWT - Food Science and Technology* 87 (2018).

- Torbica, A., Jambrec, D., Tomić, J., Pajin, B., Petrović, J., Kravić, S., & Lončarević, I. 2015. Solid Fat Content, Pre-Crystallization Conditions, and Sensory Quality of Chocolate with Addition of Cocoa Butter Analogues. *International Journal of Food Properties*, 19(5), 1029–1043.
- Trombino, S., Cassano, R., Muzzalupo, R., Pingitore, A., Cione, E., & Picci, N. 2009. Stearyl ferulate-based solid lipid nanoparticles for the encapsulation and stabilization of β -carotene and α -tocopherol. *Colloids and Surfaces B: Biointerfaces*, 72(2), 181–187.
- Wang, H.-X., Wu, H., Ho, C.-T., & Weng, X.-C. 2006. Cocoa butter equivalent from enzymatic interesterification of tea seed oil and fatty acid methyl esters. *Food Chemistry*, 97(4), 661–665.
- Wang, Y., Li, Y., Han, J., Li, Y., & Zhang, L. 2017. Effect of *melting point* on the Physical Properties of Anhydrous Milk Fat. IOP Conference Series: Materials Science and Engineering, 274, 012072.
- Wu, X., Wu, S., Ji, M., & Yoong, J. H. 2018. Influence of Red Palm Oil on The Physicochemical And Sensory Qualities of Flavouring Oil Gravy for Instant Noodles. *Royal Society of Chemistry Advances*, 8(2), 1148–1158.
- Xu, D., Wang, X., Yuan, F., Hou, Z., & Gao, Y. 2013. Stability of β -Carotene in Oil-in-Water Emulsions Prepared by Mixed Layer and Bilayer of Whey Protein Isolate and Beet Pectin. *Journal of Dispersion Science and Technology*, 34(6), 785–792.
- Yuan, Y., Gao, Y., Zhao, J., & Mao, L. 2008. Characterization and stability evaluation of β -carotene nanoemulsions prepared by high pressure homogenization under various emulsifying conditions. *Food Research International* 41: 61–68.
- Zagre, N.M., Delpeuch, F., Traissac, P., dan Delisle, H. 2003. Red Palm Oil as a Source of Vitamin A for Mothers and Children: Impact of a Pilot Project in Burkina Faso. *Public Health Nutrition*: 6(8), 733–742.
- Zeng, J., Shen, J., Wu, Y., Liu, X., Deng, Z., & Li, J. 2020. Effect of adding shea butter stearin and emulsifiers on the physical properties of cocoa butter. *Journal of Food Science*.
- Zhu, C., Cai, Y., Gertz, E.R., Frano, M.R.L., Burnett, D.J., Burri, B.J. 2015. Red Palm oil–Supplemented And Biofortified Cassava Gari Increase The Carotenoid and Retinyl Palmitate Concentrations Of Triacylglycerol-Rich Plasma in Women. *Nutrition Research* 35 (2015) 965 – 974.