

## DAFTAR PUSTAKA

- Aditya, N.P., So, A., Doktorovova, S., Souto, E.B., Kim, S., Chang, P., dan Ko, S. 2014. Development and evaluation of lipid nanocarriers for quercetin delivery: A comparative study of solid lipid nanoparticles (SLN), nanostructured lipid carriers (NLC), and lipid nanoemulsions (LNE). *LWT - Food Science and Technology* **59**: 115–121.
- Akiyama, Y., Hori, K., Takahashi, T., dan Yoshiki, Y. 2005. Free Radical Scavenging Activities of g -Oryzanol Constituents. *Food Science and Technology Research*. **11** (2): 295–297.
- Alfaro, L., Hayes, D., Boeneke, C., Xu, Z., Bankston, D., Bechtel, P.J., dan Sathivel, S. 2015. Physical properties of a frozen yogurt fortified with a nano-emulsion containing purple rice bran oil. *LWT - Food Science and Technology* **62** (2): 1184–1191.
- An, S., Lee, E., dan Choe, E. 2011. Effects of solubility characteristics of sensitiser and pH on the photooxidation of oil in tuna oil-added acidic O / W emulsions. *Food Chemistry* **128** (2): 358–363.
- An, Y., Yan, X., Li, B., dan Li, Y. 2014. Microencapsulation of capsanthin by self-emulsifying nanoemulsions and stability evaluation. *European Food Research Technology* 1077–1085.
- Anonim a, 2013. Peraturan Kepala Badan Pengawas Obat dan Makanan Republik Indonesia No. 28 tahun 2013 tentang Batas Maksimum Penggunaan Bahan Tambahan Pangan Antioksidan.
- Anonim b, 2019. Peraturan Badan Pengawas Obat dan Makanan no 34 tahun 2019 tentang Kategori Pangan.
- Anonim c, 2019. Peraturan Badan Pengawas Obat dan Makanan No. 11 Tahun 2019 tentang Bahan Tambahan Pangan.
- AOCS. 2004. Official methods and recommended practices of the AOCS, 5<sup>th</sup> ed. American Oil Chemists Society, IL.
- Ariviani, S., Raharjo, S., Anggrahini, S., dan Naruki, S. 2015. Formulasi dan Stabilitas Mikroemulsi O/W dengan Metode Emulsifikasi Spontan Menggunakan VCO dan Minyak Sawit sebagai Fase Minyak: Pengaruh Rasio Surfaktan-Minyak. *Agritech* **35** (1): 27–34.
- Ariviani, S., Raharjo, S., dan Hastuti, P. 2011. Aplikasi Mikroemulsi  $\beta$ -Karoten untuk Menghambat Kerusakan Fotoooksidatif Vitamin C pada Sari Buah Jeruk. *Agritech* **31** (3): 180–189.
- \_\_\_\_\_. 2011. Potensi Mikroemulsi  $\beta$  -Karoten dalam Menghambat Fotoooksidasi Vitamin C Sistem Aqueous. *Jurnal Teknologi dan Industri Pangan* **XXII** (1): 33–39.
- Bai, S.H., Brooks, P., Gama, R., Nevenimo, T., Hannet, G., Hannet, D., Randall, B., Walton, D., Grant, E., dan Wallace, H.M. 2019. Nutritional quality of almond, canarium, cashew and pistachio and their oil photooxidative stability. *Journal of Food Science and Technology* **56** (2): 792–798.

- Basiron, Y. (2005). *BAILEY ' S INDUSTRIAL OIL AND FAT PRODUCTS*. F Shahidi (ed.). Sixth v.2. John Wiley & Sons, Inc.: New Jersey, Canada.
- Bovi, G.G., Petrus, R.R., dan Pinho, S.C. 2017. Feasibility of incorporating buriti (*Mauritia flexuosa* L.) oil nanoemulsions in isotonic sports drink. *Internatioal Journal of Food Science and Technology* 1–9.
- Charoen, R., Jangchud, A., Jangchud, K., Harnsilawat, T., Naivikul, O., dan McClements, D.J. 2011. Influence of Biopolymer Emulsifier Type on Formation and Stability of Rice Bran Oil-in-Water Emulsions : Whey Protein, Gum Arabic, and Modified Starch. *Journal of Food Science* **76** (1): 165–172.
- Choe, E., dan Min, D.B. 2005. Chemistry and Reactions of Reactive Oxygen Species in Foods. *Journal of Food Science* **70** (9): 142–159.
- Choe, E., dan Min, D.B. 2009. Mechanisms of Antioxidants in the Oxidation of Foods. *Comprehensive Reviews in Food Science and Food Safety* **8**: 345–358.
- Chusut, T., Pathompak, P., Charoenchai, L., Saingam, W., Monoton, C., Kraisintu, K., dan Amnuakit, T. 2015. Development of gamma Oryzanol-Loaded Nanostructured Lipid Carriers by Using Glyceryl Stearate Blended PEG-100 Stearate as Solid Lipid and Cold Pressed Rice Bran Oil as Liquid Lipid. *Bulletin of Health, Science and Technology* **13** (2): 47–55.
- Cuevas, M.S., Souza, P.T. De, Christianne, E., Rodrigues, C., dan Meirelles, A.J.A. 2017. Quantification and Determination of Composition of Steryl Ferulates in Refined Rice Bran Oils Using an UPLC - MS Method. *Journal of the American Oil Chemists' Society* **94** (3): 375–385.
- Davidov-Pardo, G., dan McClements, D.J. 2015. Nutraceutical delivery systems : Resveratrol encapsulation in grape seed oil nanoemulsions formed by spontaneous emulsification. *Food Chemistry* **167**: 205–212.
- Deepam, L.S.A., Sundaresan, A., dan Arumughan, C. 2011. Stability of Rice Bran Oil in Terms of Oryzanol, Tocopherols, Tocotrienols and Sterols. *Journal of American Oil Chemistry Society* 1001–1009.
- Dhavamani, S., Poorna, Y., Rao, C., dan Lokesh, B.R. 2014. Total antioxidant activity of selected vegetable oils and their influence on total antioxidant values in vivo : A photochemiluminescence based analysis. *Food Chemistry* **164**: 551–555.
- Ghaderi, S., Ghanbarzadeh, S., Mohammadhassani, Z., dan Hamishehkar, H. 2014. Formulation of Gammaoryzanol-Loaded Nanoparticles for Potential Application in Fortifying Food Products. *Advanced Pharmaceutical Bulletin* **4** (Suppl 2): 549–554.
- Ghosh, M. 2007. Review on Recent Trends in Rice Bran Oil Processing. 315–324.
- Gulotta, A., Saberi, A.H., Nicoli, M.C., dan McClements, D.J. 2014. Nanoemulsion-Based Delivery Systems for Polyunsaturated ( $\omega$  -3) Oils: Formation Using a Spontaneous Emulsi fi cation Method. *Journal of Agricultural and Food Chemistry* **62**: 1720–1725.
- Guttoff, M., Saberi, A.H., dan McClements, D.J. 2015. Formation of vitamin D nanoemulsion-based delivery systems by spontaneous emulsification : Factors affecting particle size and stability. *Food Chemistry* **171**: 117–122.
- Hamid, A.A., Sabri, M., Dek, P., Tan, C.P., Asraf, M., Zainudin, M., Koh, E., dan Fang, W. 2014. Changes of Major Antioxidant Compounds and Radical

- Scavenging Activity of Palm Oil and Rice Bran Oil during Deep-Frying. 502–515.
- Harp, B.P., Miranda-bermudez, E., dan Barrows, J.N. 2013. Determination of Seven Certified Color Additives in Food Products Using Liquid Chromatography. *Journal* **61**: 3726–3736.
- Hategekimana, J., Chamba, M.V.M., Shoemaker, C.F., Majeed, H., dan Zhong, F. 2015. Vitamin E nanoemulsions by emulsion phase inversion: Effect of environmental stress and long-term storage on stability and degradation in different carrier oil types. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **483**: 70–80.
- Hoed, V. Van, Vila, J., dan Marta, A. 2010. Optimization of Physical Refining to Produce Rice Bran Oil with Light Color and High Oryzanol Content. 1227–1234.
- Huang, R., Choe, E., dan Min, D.B. 2004. Effects of Riboflavin Photosensitized Oxidation on the Volatile Compounds of Soymilk. *Journal of Food Science* **69** (9): 733–738.
- \_\_\_\_\_. 2004. Kinetics for Singlet Oxygen Formation by Riboflavin Photosensitization and the Reaction between Riboflavin and Singlet Oxygen. *Journal of Food Science* **69** (9): C726–C732.
- Ishaka, A., Imam, M.U., Ismail, M., Mahmud, R., Zakaria, Z., dan Bakar, A. 2016. Nanoemulsified gamma-oryzanol rich fraction blend regulates hepatic cholesterol metabolism and cardiovascular disease risk in hypercholesterolaemic rats. *Journal of Functional Foods* **26**: 338–349.
- Jo, Y., dan Kwon, Y. 2014. Characterization of  $\beta$ -Carotene Nanoemulsions Prepared by Microfluidization Technique. *Food Science and Biotechnology* **23** (1): 107–113.
- Karlsson, J.K.G., Woodford, O.J., Al-aqar, R., dan Harriman, A. 2017. Effects of Temperature and Concentration on the Rate of Photobleaching of Erythrosine in Water. *The Journal of Physical Chemistry* **121**: 8569–8576.
- Khuwijtjaru, P., Yuenyong, T., Pongsawatmanit, R., dan Adachi, S. 2009. Degradation Kinetics of Gamma-Oryzanol in Antioxidant-Stripped Rice Bran Oil during Thermal Oxidation. **497** (10): 491–497.
- Kim, H.J., dan Min, D.B. (2008). *Food Lipids: Chemistry, Nutrition, and Biotechnology*. CC Akoh, dan DB Min (ed.). Third CRC Press: Boca Raton.
- Kim, J.-S., Suh, M.-H., Yang, C.-B., dan Lee, H.G. 2003. Effect of  $\gamma$ -Oryzanol on the Flavor and Oxidative Stability of Refrigerated Cooked Beef. *Journal of Food Science* **68** (8): 2423–2429.
- Kim, J. 2007. Antioxidant Activity of  $\gamma$ -Oryzanol and Synthetic Phenolic Compounds in an Oil/Water (O/W) Emulsion System. *Journal of Food Science and Nutrition* **12**: 173–176.
- Kim, J.I., Lee, J.H., Choi, D.S., Won, B.M., Jung, M.Y., dan Park, J. 2009. Kinetic study of the quenching reaction of singlet oxygen by common synthetic antioxidants (tert-Butylhydroxyanisole, tert-di-Butylhydroxytoluene, and tert-Butylhydroquinone) as compared with  $\alpha$ -Tocopherol. *Journal of Food Science* **74** (5): .
- Kim, J.Y., Choi, D.S., dan Jung, M.Y. 2003. Antiphot-oxidative Activity of

- Sesamol in Methylene Blue- and Chlorophyll-Sensitized Photo-oxidation of Oil. *Journal of Agricultural and Food Chemistry* **51**: 3460–3465.
- Kim, M., Park, J.W., Kim, J.Y., Park, K.W., Lee, S., Jang, J., dan Lee, J.H. 2013. Effects of Heat Treatment and Visible Light Exposure on the Oxidative Stability of Rice Bran and of Rice Bran Oil. **22** (5): 1223–1228.
- Kochhar, S.P. 2000. Stabilisation of frying oils with natural antioxidative components. *European Journal of Lipid Science Technology* **102**: 552–559.
- Komaiko, J., dan McClements, D.J. 2014. Optimization of isothermal low-energy nanoemulsion formation : Hydrocarbon oil , non-ionic surfactant , and water systems. *Journal of Colloid And Interface Science* **425**: 59–66.
- Komaiko, J.S., dan McClements, D.J. 2016. Formation of Food-Grade Nanoemulsions Using Low-Energy Preparation Methods : A Review of Available Methods. *Comprehensive Reviews in Food Science and Food Safety* **15**: 331–352.
- Krishna, A.G.G., Khatoon, S., Shiela, P.M., Sarmandal, C. V, Indira, T.N., dan Mishra, A. 2001. Effect of Refining of Crude Rice Bran Oil on the Retention of Oryzanol in the Refined Oil. *JAOCs* **78** (i): 127–131.
- Kumar, N., dan Pruthi, V. 2014. Potential applications of ferulic acid from natural sources. *Biotechnology Reports* **4**: 86–93.
- Lee, J.H., dan Jung, M.Y. 2010. Direct spectroscopic observation of singlet oxygen quenching and kinetic studies of physical and chemical singlet oxygen quenching rate constants of synthetic antioxidants (BHA, BHT, and TBHQ) in methanol. *Journal of Food Science* **75** (6): 506–513.
- Lee, K.H., Jung, M.Y., dan Kim, S.Y. 1997. Quenching Mechanism and Kinetics of Ascorbyl Palmitate for the Reduction of the Photosensitized Oxidation of Oils. **74** (9): 1053–1057.
- Lesma, G., Luraghi, A., Bavaro, T., Bortolozzi, R., Rainoldi, G., Roda, G., Viola, G., Ubiali, D., dan Silvani, A. 2018. Phytosterol and  $\gamma$ -Oryzanol Conjugates: Synthesis and Evaluation of their Antioxidant, Antiproliferative, and Anticholesterol Activities. *Journal of Natural Products* **81**: 2212–2221.
- Liu, R., Xu, Y., Chang, M., Liu, R., dan Wang, X. 2021. Interactions between  $\alpha$ -tocopherol and  $\gamma$ -oryzanol in oil-in-water emulsions.pdf. *Food Chemistry* **356**: 129648.
- Lou, Z., Chen, J., Yu, F., Wang, H., Kou, X., Ma, C., dan Zhu, S. 2017. The antioxidant, antibacterial, antibio film activity of essential oil from *Citrus medica* L. var. *sarcodactylis* and its nanoemulsion. *LWT - Food Science and Technology* **80**: 371–377.
- Lu, W., Niu, Y., Yang, H., Sheng, Y., Shi, H., dan Lucy, L. 2014. Simultaneous HPLC quantification of five major triterpene alcohol and sterol ferulates in rice bran oil using a single reference standard. *Food Chemistry* **148**: 329–334.
- Marina, A.M., Che man, Y.B., Nazimah, S.A.H., dan Amin, I. 2009. Chemical Properties of Virgin Coconut Oil. *Journal of American Oil Chemistry Society* **86**: 301–307.
- Massarolo, K.C., Ribeiro, A.C., dan Furlong, E.B. 2017. Effect of particle size of rice bran on gamma-oryzanol content and compounds. *Journal of Cereal Science* **75**: 54–60.

- Mayer, S., Weiss, J., dan McClements, D.J. 2013. Vitamin E-enriched nanoemulsions formed by emulsion phase inversion: Factors influencing droplet size and stability. *Journal of Colloid and Interface Science* **402**: 122–130.
- McClements, D.J. (2015). *Food Emulsions: Principles, Practice, and Techniques*. 3rd ed. CRC Press: Boca Raton, FL.
- \_\_\_\_\_. 2018. Delivery by Design (DbD): A Standardized Approach to the Development of Efficacious Nanoparticle- and Microparticle-Based Delivery Systems. *Comprehensive Reviews in Food Science and Food Safety* **17**: 200–219.
- McClements, D.J., Bai, L., dan Chung, C. 2017. Recent Advances in the Utilization of Natural Emulsifiers to Form and Stabilize Emulsions. *Annual Review of Food Science and Technology* **8** (January): 1–32.
- Min, D.B., dan Boff, J.M. 2002. Chemistry and Reaction of Singlet Oxygen in Foods. *Comprehensive Reviews in Food Science and Food Safety* **1**: 58–72.
- Mukai, K., Ishikawa, E., Abe, T., Ouchi, A., Nagaoka, S.I., Murata, K., Miyazawa, T., dan Nakagawa, K. 2015. Kinetic study of the quenching reaction of singlet oxygen by seven rice bran extracts in ethanol solution. Development of a singlet oxygen absorption capacity (SOAC) assay method. *Bioscience, Biotechnology and Biochemistry* **79** (12): 2063–2072.
- Mukai, K., Ohara, A., Ito, J., Hirata, M., Kobayashi, E., Nakagawa, K., dan Nagaoka, S. 2019. Kinetic Study of the Quenching Reaction of Singlet Oxygen by Eight Vegetable Oils in Solution. *Journal of Oleo Science* **31** (1): 21–31.
- Nguyen, H.H., Choi, K.-O., Kim, D.-E., Kang, W.-S., dan Ko, S. 2013. Improvement of Oxidative Stability of Rice Bran Oil Emulsion by Controlling Droplet Size. *Journal of Food Processing and Preservation* **37**: 139–151.
- Nishida, Y., Yamashita, E., dan Miki, W. 2007. Quenching Activities of Common Hydrophilic and Lipophilic Antioxidants against Singlet Oxygen Using Chemiluminescence Detection System. *Carotenoid Science* **11**: 16–20.
- Ostertag, F., Weiss, J., dan McClements, D.J. 2012. Low-energy formation of edible nanoemulsions : Factors influencing droplet size produced by emulsion phase inversion. *Journal of Colloid And Interface Science* **388** (1): 95–102.
- Ouchi, A., Aizawa, K., Iwasaki, Y., Inakuma, T., Terao, J., Nagaoka, S.I., dan Mukai, K. 2010. Kinetic study of the quenching reaction of singlet oxygen by carotenoids and food extracts in solution. development of a singlet oxygen absorption capacity (SOAC) assay method. *Journal of Agricultural and Food Chemistry* **58** (18): 9967–9978.
- Ozturk, B., dan McClements, D.J. 2016. Progress in natural emulsifiers for utilization in food emulsions. *Current Opinion in Food Science* **7**: 1–6.
- Pan, X., Ushio, H., dan Ohshima, T. 2005. Effects of molecular configurations of food colorants on their efficacies as photosensitizers in lipid oxidation. *Food Chemistry* **92** (August): 37–44.
- Park, P.W., dan Goins, R.E. 1994. In Situ Preparation of Fatty Acid Methyl Esters for Analysis of Fatty Acid Composition in Foods. *Journal of Food Science* **59** (6): 1262–1266.
- Patel, M., dan Naik, S.N. 2004. Gamma-oryzanol from rice bran oil – A review. **63**



- (July): 569–578.
- Pestana, V.R., Zambiasi, R.C., Mendonça, C.R.B., Bruscatto, M.H., Lerma-García, M.J., dan Ramis-ramos, G. 2008. Quality Changes and Tocopherols and  $\gamma$ -Orizanol Concentrations in Rice Bran Oil During the Refining Process. *Journal of American Oil Chemistry Society* **85**: 1013–1019.
- Pike, O.A. dan O'Keefe, S.O. 2017. Fat Characterization in Food Analysis. S. Suzanne Nielsen (ed.). Springer : USA.
- Piriyaprasarth, S., Juttulapa, M., dan Sriamornsak, P. 2016. Stability of rice bran oil-in-water emulsions stabilized by pectin e zein complexes : Effect of composition and order of mixing. *Food Hydrocolloids* **61**: 589–598.
- Pokkanta, P., Sookwong, P., Tanang, M., dan Setchaiyan, S. 2019. Simultaneous determination of tocopherols,  $\gamma$ -oryzanols, phytosterols, squalene, cholecalciferol and phylloquinone in rice bran and vegetable oil samples. *Food Chemistry* **271** (June 2018): 630–638.
- Ramel, F., Birtic, S., Cuine, S., Triantaphyllide, C., Ravanat, J., dan Havaux, M. 2012. Chemical Quenching of Singlet Oxygen by Carotenoids. *Plant Physiology* **158** (March): 1267–1278.
- Raharjo, Sri. 2006. Kerusakan Oksidatif Pada Makanan. Yogyakarta: Gadjah Mada University Press.
- Rohmah, M., Raharjo, S., Chusnul, H., dan Martien, R. 2019. Formulasi dan Stabilitas Nanostructured Lipid Carrier dari Campuran Fraksi Stearin dan Olein Minyak Kelapa Sawit. *Jurnal Aplikasi Teknologi Pangan* **8** (1): 23–30.
- Rohman, A. (2014). *Rice Bran Oil's Role in Health and Cooking*. Elsevier.
- Saberi, A.H., Fang, Y., dan McClements, D.J. 2013. Effect of glycerol on formation, stability, and properties of vitamin-E enriched nanoemulsions produced using spontaneous emulsification. *Journal of Colloid And Interface Science* **411**: 105–113.
- Saberi, A.H., Yuan, F., dan McClements, D.J. 2016. Influence of surfactant type and thermal cycling on formation and stability of fl avor oil emulsions fabricated by spontaneous emulsification. *Food Research International* **89**: 296–301.
- Sakunpak, A., Suksaeree, J., Pathompak, P., Charoonratana, T., dan Sermkaew, N. 2014. Antioxidant Individual  $\gamma$ -Oryzanol Screening in Cold Pressed Rice Bran Oil of Different Thai Rice Varieties by HPLC-DPPH Method. *International Journal of Pharmacy and Pharmaceutical Sciences* **6** (6): 2–7.
- Seetapan, N., Bejrapha, P., Srinuanchai, W., dan Rungsardthong, U. 2010. Rheological and morphological characterizations on physical stability of gamma-oryzanol-loaded solid lipid nanoparticles (SLNs). *Micron* **41**: 51–58.
- Shantha, C.N., dan Decker, E.A. 1994. Rapid, sensitive, iron-based spectrophotometric methods for determination of peroxide values of food lipids. *Journal of AOAC International* **77** (2): 421–424.
- Sharif, H.R., Williams, P.A., Kamran, M., Abbas, S., Majeed, H., George, K., Safdar, W., dan Zhong, F. 2018. Current progress in the utilization of native and modified legume proteins as emulsifiers and encapsulants - A review. *Food Hydrocolloids* **76**: 2–16.
- Sibuea, P., Suparmo, Santoso, U., Noor, Z., Astuti, M., dan Raharjo, S. 2004.

- Quenching Mechanisms and Kinetics of Quercetin in Inhibition of Photosensitized Oxidation of Palm Oil and Linoleic Acid. *Indonesian Food and Nutrition Progress* **11** (2): 56–64.
- Sudarmadji, S., Haryono, B., dan Suhardi. (1997). *Prosedur Analisa untuk Bahan Makanan dan Pertanian*. Liberty: Yogyakarta.
- Suhendra, L. 2014. Mekanisme Singlet Oxygen Quenching Oleh Fucoxanthin dan Efektivitasnya Sebagai Antioksidan dalam Mikroemulsi. Universitas Gadjah Mada. .
- Suhendra, L., Raharjo, S., Hastuti, P., dan Chusnul, H. 2012. Formulasi dan Stabilitas Mikroemulsi O/W sebagai Pembawa Fucoxanthin. *Agritech* **32** (3): 230–239.
- \_\_\_\_\_. 2013. Efektivitas Mikroemulsi O/W dengan Surfaktan Non Ionik dalam Menghambat Fotooksidasi Vitamin C pada Model Minuman. *Agritech* **33** (1): 24–31.
- Sunil, L., Srinivas, P., dan Kumar, P.K.P. 2015. Oryzanol as natural antioxidant for improving sunflower oil stability. **52** (June): 3291–3299.
- Surh, J., Decker, E.A., dan McClements, D.J. 2017. Utilisation of spontaneous emulsification to fabricate lutein- loaded nanoemulsion-based delivery systems : factors influencing particle size and colour. *International Journal of Food Sciences and Technology* 1–9.
- Suryanto, E., Rorong, J.A., Katja, D.G., Kimia, J., Matematika, F., Alam, P., Sam, U., Unsrat, K., dan Manado, B. 2012. Mekanisme dan Kinetika Quenching Oksigen Singlet dari Senyawa Fenolik Daun Cengkeh terhadap Fotooksidasi yang Disensitasi oleh Eritrosin. *Agritech* **32** (2): 117–125.
- Wang, A., Duncan, S.E., Whalley, N.W., dan Keefe, S.F.O. 2020. Interaction effect of LED color temperatures and light-protective additive packaging on photo-oxidation in milk displayed in retail dairy case. *Food Chemistry* **323** (April): 126699.
- Wilkinson, F., Helman, W.P., dan Ross, A.B. 1995. Rate Constants for the Decay and Reactions of the Lowest Electronically Excited Singlet State of Molecular Oxygen in Solution. An Expanded and Revised Compilation. *Journal of Physical and Chemical Reference Data* **24** (2): .
- Xu, Z., dan Godber, J.S. 1999. Purification and Identification of Components of  $\gamma$ -Oryzanol in Rice Bran Oil. *Journal of Agricultural and Food Chemistry* **47**: 2724–2728.
- \_\_\_\_\_. 2001. Antioxidant Activities of Major Components of  $\gamma$  -Oryzanol from Rice Bran Using a Linoleic Acid Model. *Journal of American Oil Chemistry Society* **78** (6): 645–649.
- Yang, R., Zhang, L., Li, P., Yu, L., Mao, J., dan Wang, X. 2018. A review of chemical composition and nutritional properties of minor vegetable oils in China. *Trends in Food Science & Technology* **74** (May 2017): 26–32.
- Yang, T.S., dan Min, D.B. 2009. Quenching mechanism and kinetics of ascorbic acid on the photosensitizing effects of synthetic food colorant FD & C Red Nr 3. *Journal of Food Science* **74** (9): 718–722.
- Yang, W.T., Lee, J.H., dan Min, D.B. 2002. Quenching mechanisms and kinetics of  $\alpha$ -tocopherol and  $\beta$ -carotene on the photosensitizing effect of synthetic food

- colorant FD&C Red No. 3. *Journal of Food Science* **67** (2): 507–510.
- Yettela, R.R., dan Min, D.B. 2008. Quenching mechanisms and kinetics of trolox and ascorbic acid on the riboflavin-photosensitized oxidation of tryptophan and tyrosine. *Journal of Agricultural and Food Chemistry* **56**: 10887–10892.
- Yildirim, S.T., Oztop, M.H., dan Soyer, Y. 2017. Cinnamon oil nanoemulsions by spontaneous emulsification : Formulation, characterization and antimicrobial activity. *LWT - Food Science and Technology* **84**: 122–128.
- Yuwanti, S., Raharjo, S., Hastuti, P., dan Supriyadi. 2012. Mikroemulsi Minyak dalam Air (o/w) sebagai Pembawa  $\alpha$ -Tokoferol untuk Menghambat Sunlight Flavor Pada Susu Full Cream Akibat Fotooksidasi. *Agritech* **32** (2): 179–185.
- Zhong, J., Liu, X., Wang, Y., Qin, X., dan Li, Z. 2017.  $\gamma$ -Oryzanol Nanoemulsions Produced by a Low-Energy Emulsification Method: an Evaluation of Process Parameters and Physicochemical Stability. *The Royal Society of Chemistry*.
- Zhong, J., Yang, R., Cao, X., Liu, X., dan Qin, X. 2018. Improved Physicochemical Properties of Yogurt Fortified with Fish Oil/ $\gamma$ -Oryzanol by Nanoemulsion Technology. *molecules* **23**: 1–11.