

V. KESIMPULAN DAN SARAN

5.1. Kesimpulan

1. Penambahan berbagai tingkat ekstrak matcha berpengaruh nyata terhadap karakteristik mikrobiologis yaitu ALT BAL yoghurt angkak biji durian.
2. Penambahan berbagai tingkat ekstrak matcha berpengaruh nyata terhadap karakteristik kimia yaitu TAT yoghurt angkak biji durian.
3. Penambahan berbagai tingkat ekstrak matcha berpengaruh nyata terhadap karakteristik kimia yaitu pH yoghurt angkak biji durian.
4. Penambahan ekstrak matcha hingga konsentrasi 15% dapat meningkatkan total BAL dan TAT yoghurt angkak biji durian (berbeda nyata dengan perlakuan lain) dan kemudian menurun pada konsentrasi lebih dari 15%.

5.2. Saran

Perlu dilakukan penelitian lebih lanjut tentang pengaruh masa penyimpanan terhadap kualitas yoghurt angkak biji durian ekstrak matcha ditinjau dari viabilitas BAL, TAT, dan pH.

DAFTAR PUSTAKA

- Abedi, E. & Hashemi., S. (2020). Lactic Acid Production – Producing Microorganisms and Substrates Sources-State of Art. *Heliyon*, 6, 1-32.
- Andriani, M. M., Widowati, E., & Wiratama, D. D. (2013). Kajian fortifikasi tepung angkak terhadap aktivitas antioksidan dan antibakteri pada sosis ayam. *Biomedika*, 6(1), 8-14.
- Adriani, L., Indrayati, N., Tanuwiria, U. H., & Mayasari, N. (2008). Aktivitas *Lactobacillus acidophilus* dan *Bifidobacterium* terhadap Kualitas Yoghurt dan Penghambatannya pada *Helicobacter pylori*. *Jurnal Bionatura*, 10(2), 129-140.
- Arunachalam, M., Mohan, M., Mohan N., Mahadevan, A. (2003). Biodegradation of Catechin. *Proc. Indian natn Sci Acad.* 4, 353-370.
- Atma, Y. (2015). Studi Penggunaan Angkak sebagai Pewarna Alami dalam Pengolahan Sosis Daging Sapi. *Jurnal Teknologi*, 7(2), 76-85.
- Badan Standarisasi Nasional. (2014). *SNI Susu UHT (Ultra High Temperature)* 3950:2014. Jakarta: BSN.
- Badan Standarisasi Nasional. (2009). *SNI 2981:2009. Yogurt*. Jakarta: Badan Standardisasi Nasional.
- Bai, L., Takagi, S., Ando, T., Yoneyama, H., Ito, K., Mizugai, H., & Isogai, E. (2016). Antimicrobial activity of tea catechin against canine oral bacteria and the functional mechanisms. *The Journal of veterinary medical science*, 78(9), 1439–1445. <https://doi.org/10.1292/jvms.16-0198>
- Baraheng, S., & T. Karrila. (2019). Chemical and Functional Properties of Durian (*Durio zibethinus* Murr.) Seed Flour and Starch, *Food Bioscience*, 30, 1-8.
- Beal, C. & Helinck, S. (2015). Yogurt and Other Fermented Milk, (Dalam *Microorganism and Fermentation of Traditional Foods*, Ray, R.C and M. Didier, Eds.), CRC Press.
- Bule, M., Khan, F., & Niaz, K. (2019). Red Yeast Rice (*Monascus purpureus*). *Nonvitamin And Nonmineral Nutritional Supplements*, 509-515. doi: 10.1016/b978-0-12-812491-8.00067-9
- Brown, M.J. (1997). *Durio - A Bibliographic Review*. Arora, R.K., Rao, V.R., Rao, A.N. (Eds). New Delhi, India.

- Chairunnissa, H., Balia, R. L., Pratama, A., & Hadiat, D. (2017). Karakteristik Kimia *Set Yoghurt* dengan Bahan Baku Susu Tepung dengan Penambahan Jus Bit (*Beta Vulgaris L.*). *Jurnal Ilmu Ternak*, 17(1), 35-39.
- Chandan, R. C., White, C. H., Kilara, A., & Hui, Y. H. (Eds.). (2008). *Manufacturing yogurt and fermented milks*. John Wiley & Sons.
- Chen, X., Zhao, Z., Zhang, C., Shang, C., Gao, L., & Li, C. et al. (2022). Effect of epigallocatechin gallate on the fermentative and physicochemical properties of fermented milk. *Journal Of Dairy Science*, 105(9), 7322-7333. doi: 10.3168/jds.2021-21709
- Chen, L., Wang, W., Zhang, J., Wang, W., Ni, D., & Jiang, H. (2020). Dehydroascorbic Acid Affects the Stability of Catechins by Forming Conjunctions. *Molecules*, 25(18), 4076. doi: 10.3390/molecules25184076
- Chen, C., Zhao, S., Hao, G., Yu, H., Tian, H., & Zhao, G. (2017). Role of lactic acid bacteria on the yogurt flavour: A review. *International Journal of Food Properties*. 20, 316-330. doi: 10.1080/10942912.2017.1295988
- Chen, S., L. V. Bin, D. X. Zhu, & C. F. Sheng. (2012). Pigment from Red Fermented Rice as Colouring Agent for Stirred Skimmed Milk Yoghurts. *International Journal of Dairy Technology*, 65(2), 287–292.
- Christian, R. (2021). Pengaruh Perbedaan Konsentrasi Ekstrak Angkak Biji Durian terhadap Sifat Fisikokimia dan Organoleptik Yoghurt, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widya Mandala Surabaya, Surabaya.
- Citra, A. (2021). Pengaruh Penambahan Angkak Biji Durian Serbuk, Ekstrak Air, dan Ekstrak Etanol Terhadap Aktivitas Antioksidan dan Total Fenol pada Yoghurt, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widya Mandala, Surabaya.
- Čížková H., Voldřich M., Mlejnecká J., Kvasnička F. (2008). Authenticity evaluation of tea-based products. *Czech J. Food Sci.*, 26, 259-267.
- Courtin, P. & Rul, F. (2003). Interactions between Microorganisms in a Simple Ecosystem: Yogurt Bacteria as a Study Model. *Lait*, 84 (2004), 125-134.
- Damián, M., Cortes-Perez, N., Quintana, E., Ortiz-Moreno, A., Garfias Noguez, C., & Cruceño-Casarrubias, C. et al. (2022).

- Functional Foods, Nutraceuticals and Probiotics: A Focus on Human Health. *Microorganisms*, 10(5), 1065. doi: 10.3390/microorganisms10051065
- Deak, T. (2014). Thermal Treatment. *Food Safety Management*, 423-442. doi: 10.1016/b978-0-12-381504-0.00017-2
- Deshmukh, K., Basheer Ahamed, M., Deshmukh, R., Khadheer Pasha, S., Bhagat, P., & Chidambaram, K. (2017). Biopolymer Composites With High Dielectric Performance: Interface Engineering. *Biopolymer Composites In Electronics*, 27-128. doi: 10.1016/b978-0-12-809261-3.00003-6
- Endo, A., & Dicks, L. M. T. (2014). *Lactic Acid Bacteria: Biodiversity and Taxonom*; Holzapfel, WH, Wood, BJB, Eds.
- Erkmen, O., & Bozoglu, T. F. (2016). *Food Microbiology Principles into Practice*. Wiley.
- Falasifa, T. D., A. Supriyadi, & S. Pujiyanto. (2014). Produksi Pigmen Merah *Monascus* sp. pada Substrat Tepung Biji Durian (*Durio zibethinus* Murr.) & Biji Nangka (*Artocarpus heterophyllus* Lam.) dengan Variasi Penambahan Sumber Nitrogen. *Jurnal Biologi*, 3(3), 25-32.
- Fardiaz, S. (1982). *Mikrobiologi Pangan*. Institut Pertanian Bogor.
- Fatimah, S., A. Supriyadi, & E. Kusdiyantini. (2014). Produksi & Kestabilan Pigmen Merah Kapang *Monascus* sp. Menggunakan Media Tepung Kulit Singkong dengan Penambahan Bekatul pada Konsentrasi yang Berbeda, *Jurnal Biologi*, 3(3), 49-59.
- Felissa, A. (2021). Pengaruh Penambahan Angkak Biji Durian Bubuk, Ekstrak Air, dan Ekstrak Etanol Terhadap Aktivitas Bakteri Asam Laktat, pH, dan Total Asam Yoghurt, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widaya Mandala, Surabaya.
- Fletcher, J. (2015). *Yogurt, Sweet and Savory Recipes for Breakfast, Lunch, and Dinner*. Ten Speed Press.
- Gehring, C., Matthew, P., & Jacek, J. (2009). Functional and Nutritional Quality of Protein and Lipid Recovered from Fish Processing by-Products and Underutilized Aquatic Species Using Isoelectric Solubilization / Precipitation. *Current Nutrition & Food Science*, 5, 17-39.
- Gheorghe, V., Gabriel Alexandru C., Elena-Mădălina S., Paula T., Mariana Gabriela M., & Tomasz Ż. (2019). Aspect Regarding the Aseptic Packaging of Food Products. *Acta Technica Corviniensis: Bulletin of Engineering*, 1.

- Gopal, J., Muthu, M., Paul, D., Kim, D., & Chun, S. (2016). Bactericidal activity of green tea extracts: the importance of catechin containing nano particles. *Scientific Reports*, 6(1). doi: 10.1038/srep19710
- Gopal, P. K. (2011). *Lactobacillus spp.: Lactobacillus acidophilus*. In *Encyclopedia of Dairy Sciences, Second Edition* (pp. 91-95). Elsevier Ltd.
- Guevarra, R. B., & Barraquio, V. L. (2015). Viable Counts of Lactic Acid Bacteria in Philippine Commercial Yogurts. *International Journal of Dairy Science and Processing*, 2(5), 24-28.
- Habibillah, M. F. (2009). Pengaruh Variasi Konsentrasi dan Perbandingan Starter Bakteri (*Lactobacillus acidophilus*) dan (*Bifidobacterium bifidium*) terhadap Kualitas *Yoghurt* Susu Kambing, *Skripsi*, Fakultas Sains dan Teknologi, Universitas Islam Negeri Malang, Malang.
- Habiburrohman, D. & Sukohar, A. (2018). Aktivitas Antioksidan dan Antimikrobia pada Polifenol Teh Hijau, *Journal Agromedicine Unila*, 5(2), 587-591.
- Han, J., Chang, Y., Britten, M., St-Gelais, D., Champagne, C. P., Fustier, P., & Lacroix, M. (2019). Interactions of Phenolic Compounds with Milk Proteins. *European Food Research and Technology*, 245, 1881-1888.
- Hanani, Z. (2016). Gelatin. *Encyclopedia Of Food And Health*, 191-195. doi: 10.1016/b978-0-12-384947-2.00347-0
- Hariyadi, P. (2011). *Sterilisasi UHT dan Pengemasan Aseptik*. SEAFASST Center Institut Pertanian Bogor.
- Harnett, J., Davey, G., Patrick, A., Caddick, C., & Pearce, L. (2011). *Streptococcus thermophilus*. In *Encyclopedia of Dairy Sciences, Second Edition* (pp. 143-148). Elsevier Ltd.
- He, J., Xu, L., Yang, L., & Wang, X. (2018). Epigallocatechin Gallate Is the Most Effective Catechin Against Antioxidant Stress via Hydrogen Peroxide and Radical Scavenging Activity. *Medical Science Monitor*, 24, 8198-8206. doi: 10.12659/msm.911175
- Hendarto, D. R., Handayani, A. P., Esterelita, E., & Handoko, Y. A. (2019). Mekanisme Biokimiawi dan Optimalisasi *Lactobacillus bulgaricus* dan *Streptococcus thermophilus* dalam Pengolahan *Yoghurt* yang Berkualitas. *Jurnal Sains Dasar*, 8(1), 13-19.

- Hidayati, N. R. & Sulandari, L. (2014). Pengaruh Jumlah Ekstrak Angkak dan Sukrosa terhadap Kualitas *Yoghurt*. *E-journal boga*, 3(1), 271-282.
- Horie, H., Ema, K., & Sumikawa, O. (2017). Chemical Components of Matcha and Powdered Green Tea. *J. Cook. Sci. Jap.* 50, 182–188.
- Huang, W., Lin, Y., Ho, R., Liu, H., & Lin, Y. (2013). Effects of Water Solutions on Extracting Green Tea Leaves. *The Scientific World Journal*, 2013, 1–6. doi: 10.1155/2013/368350
- Jaya, F., Kusumahadi, D., & Amertaningtyas, D. (2011). Pembuatan minuman probiotik (yoghurt) dari proporsi susu sapi dan kedelai dengan isolat *Lactobacillus casei* dan *Lactobacillus plantarum*. *Jurnal Ilmu dan Teknologi Hasil Ternak*, 6(1), 13 – 17.
- Jakubczyk, K., Kochman, J., Kwiatkowska, A., Kałduńska, J., Dec, K., Kawczuga, D., & Janda, K. (2020). *Antioxidant Properties and Nutritional Composition of Matcha Green Tea*. *Foods*, 9(4), 483. doi:10.3390/foods9040483
- Jeong, C., Ryu, H., Zhang, T., Lee, C., Seo, H., & Han, S. (2018). Green tea powder supplementation enhances fermentation and antioxidant activity of set-type yogurt. *Food Science And Biotechnology*, 27(5), 1419-1427. doi: 10.1007/s10068-018-0370-9
- Kahlout, K. E. M. E., Quqa, I. M. E., Hindi, M. W. E., & Bashiti, T. A. E. (2018). Isolation, biochemical characterization and DNA identification of yoghurt starters *Streptococcus thermophilus* & *Lactobacillus delbrueckii* ssp. *bulgaricus* in Gaza strip. *Advances in Microbiology*, 8, 1005-1020.
- Kochman, J., Jakubczyk, K., Antoniewicz, J., Mruk, H., & Janda, K. (2020). Health Benefits and Chemical Composition of Matcha Green Tea: A Review. *Molecules*, 26(1), 85. doi: 10.3390/molecules26010085
- Kolackova, T., Kolofiková, K., Sytařová, I., Snopek, L., Sumczynski, D., & Orsavová, J. (2019). Matcha Tea: Analysis of Nutritional Composition, Phenolics and Antioxidant Activity. *Plant Foods For Human Nutrition*, 75(1), 48-53. doi: 10.1007/s11130-019-00777-z
- Komes, D., Horžić, D., Belščak, A., Ganić, K., & Vulić, I. (2010). Green tea preparation and its influence on the content of

- bioactive compounds. *Food Research International*, 43(1), 167-176. doi: 10.1016/j.foodres.2009.09.022
- Kreft, S. (2015). Pharmacodynamic interactions between drugs and dietary supplements. *Dietary Supplements*, 127-135. doi: 10.1533/9781782420811.2.127
- Ku, K., Choi, J., Kim, J., Kim, J., Yoo, L., & Lee, S. et al. (2010). Metabolomics Analysis Reveals the Compositional Differences of Shade Grown Tea (*Camellia sinensis* L.). *Journal Of Agricultural And Food Chemistry*, 58(1), 418-426. doi: 10.1021/jf902929h
- Kusumayanti, H., Mahendrajaya, R., & Hanindito, S. (2018). Pangan Fungsional dari Tanaman Lokal Indonesia. *Metana*, 12(1), 26-30.
- Le Bloc'h, J., Pauquai, T., & Bourges, C. (2015). Authorised EU health claim for red yeast rice. *Foods, Nutrients And Food Ingredients With Authorised EU Health Claims: Volume 2*, 139-151. doi: 10.1016/b978-1-78242-382-9.00008-6
- Leemud, P., Karrila, S., Kaewmanee, T., & Karrila, T. (2019). Functional and physicochemical properties of Durian seed flour blended with cassava starch. *Journal of Food Measurement and Characterization*. doi:10.1007/s11694-019-00301-6
- Leviana, W. & Paramita, V. (2017). Pengaruh Suhu Terhadap Kadar Air Dan Aktivitas Air Dalam Bahan Pada Kunyit (*Curcuma Longa*) Dengan Alat Pengering *Electrical Oven*. *METANA*, 13(2), 37-44
- Lim, E. S. (2017). Effect of Green Tea Supplementation on Probiotic Potential, Physico-chemical, and Functional Properties of Yogurt. *Korean Journal of Microbiology*, 53(2), 103-117.
- Liong, M. (2015). *Beneficial Microorganisms in Food and Nutraceuticals*. New York: Springer International Publishing.
- Maharani, S., Rahayu, A., Azizah, D. N. & Rahayu, D. L. (2019). Perbandingan Penambahan Ekstrak Teh pada Karakteristik Kimia Caspian Sea Yoghurt. *Jurnal Ilmu Pangan dan Hasil Pertanian*, 3(2), 138-149.
- Mandel, S., Avramovich-Tirosh, Y., Reznichenko, L., Zheng, H., Weinreb, O., Amit, T., & Youdim, M. (2005). Multifunctional Activities of Green Tea Catechins in Neuroprotection. *Neurosignals*, 14(1-2), 46-60. doi: 10.1159/000085385

- Mariana, E. & Usman, Y. (2019). Effect of Pollard Supplementation on Probiotic (*Lactobacillus acidophilus*) Growth and Acidification Rate. *IOP Conference Series: Earth and Environmental Science*, 387(1), 1-4.
- Maskiyah, Juniawati, & Yuanita, L. (2020). Mutu Starter Kering Yoghurt Probiotik di Berbagai Suhu Selama Penyimpanan. *Jurnal Penelitian Pascapanen Pertanian*, 17(1), 15-23.
- Masood, M. I., Qadir, M. I., Shirazi, J. H., & Khan, I. U. (2011). Beneficial effects of lactic acid bacteria on human beings. *Critical reviews in microbiology*, 37(1), 91–98. <https://doi.org/10.3109/1040841X.2010.536522>
- Mayo, B., Aleksandrak-Piekarczyk, T., Fernandez, M., Kowalczyk, M., Alvarez-Martín, P., & Bardowski, J. (2015). Updates in the Metabolism of Lactic Acid Bacteria. *Biotechnology Of Lactic Acid Bacteria*, 3-33. doi: 10.1002/9780813820866.ch1
- Mengesha, Y., Tebeje, A., & Tilahun, B. (2022). A Review on Factors Influencing the Fermentation Process of Teff (*Eragrostis tef*) and Other Cereal-Based Ethiopian Injera. *International Journal Of Food Science*, 2022, 1-10. doi: 10.1155/2022/4419955
- Miura, Y., Chiba, T., Tomita, I., Koizumi, H., Miura, S., Umegaki, K., & Ikeda, M. (2001). Tea Catechins Prevent the Development of Atherosclerosis in Apoprotein E-Deficient Mice. *The Journal of Nutrition*, 131(1), 27–32. doi:10.1093/jn/131.1.27
- Mirah. (2011). Penghambatan Ekstrak Bubuk Teh Hijau terhadap Pertumbuhan Bakteri Yogurt dan Bakteri Patogen, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widya Mandala, Surabaya.
- Molan, A., Flanagan, J., Wei, W., & Moughan, P. (2009). Selenium-containing green tea has higher antioxidant and prebiotic activities than regular green tea. *Food Chemistry*, 114(3), 829-835. doi: 10.1016/j.foodchem.2008.10.028
- Musial, C., Kuban-Jankowska, A., & Gorska-Ponikowska, M. (2020). Beneficial Properties of Green Tea Catechins. *International Journal Of Molecular Sciences*, 21(5), 1744. doi: 10.3390/ijms21051744
- Najgebauer-Lejko, D. (2014). Effect of green tea supplementation on the microbiological, antioxidant, and sensory properties of probiotic milks. *Dairy Science & Technology*, 94(4), 327-339. doi: 10.1007/s13594-014-0165-6

- Narayanaswamy, R., Kanagesan, S., Pandurangan, A., & Padmanabhan, P. (2016). Basics to different imaging techniques, different nanobiomaterials for image enhancement. *Nanobiomaterials In Medical Imaging*, 101-129. doi: 10.1016/b978-0-323-41736-5.00004-2
- Nicholas, H. (2021). Pengaruh Penambahan Angkak Biji Durian Serbuk, Ekstrak Air, dan Ekstrak Etanol Terhadap Sifat Fisikokimia dan Organoleptik Yoghurt, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widaya Mandala, Surabaya.
- Nishitani, E. & Sagesaka. (2004). Simultaneous determination of catechins, caffeine and other phenolic compounds in tea using new HPLC method. *Journal of Food Composition and Analysis*, 17, 675–685
- Nugrahani, I., Sutedia, A. M., Srinta, I., Widharna, R. M., & Marsono, Y. (2017). *In Vivo* Evaluation of *Monascus*-Fermented Durian Seed for Antidiabetic and Antihypercholesterol Agent. *Food Research*, 1(3), 83-88.
- Oeitanto, A., I. Nugrahani, & N. Kusumawati. (2013). Pembuatan Yoghurt Murbei Hitam (*Morus nigra L.*): Proporsi Sari Buah dan Susu Sapi Terhadap Komponen Bioaktif dan Viabilitas Bakteri Asam Laktat Selama Penyimpanan, *Jurnal Teknologi Pangan dan Gizi*, 12 (2), 87-94.
- Oliver, S. P., Gillespie, B. E., Lewis, M. J., Ivey, S. J., Almeida, R. A., Luther, D. A., Johnson, D. L., Lamar, K. C., Moorehead, H. D. & Dowlen, H. H. (2001). Efficacy of A New Premilking Teat Disinfectant Containing A Phenolic Combination for The Prevention of Mastitis, *Journal Dairy Science*, 84(6), 1545-1249
- Oshoma, C. E., O. A. Allen, & P. O. Oyedoh. (2020). Growth Enhancement of Lactic Acid Bacteria for Production of Bacteriocin Using a Local Condiment Supplemented with Nitrogen Sources, *Tropical Journal of Natural Product Research*, 4(8), 411-416.
- Pachezo-Ordaz, R., A. Wall-Medrano, M. G. Goni, G. RamosClamont-Montfort, J. F. Ayala-Zavala, & G. A. GonzalesAguilar. (2018). Effect of Phenolic Compounds on The Growth of Selected Probiotic and Pathogenic Bacteria, *Letters in Applied Microbiology*, 66,25-31.

- Pan, T., & Hsu, W. (2014). Monascus-Fermented Products. *Encyclopedia Of Food Microbiology*, 815-825. doi: 10.1016/b978-0-12-384730-0.00226-3
- Patel, H., & Patel, S. (2015). *Technical Report: Understanding the Role of Dairy Proteins in Ingredient and Product Performance*.
<https://www.thinkusadairy.org/Documents/Custom%20Site/C6News%20and%20Events/IFT/DMICMAIM5063 Dairy Protein report r6.pdf>. Tanggal akses 24 Juli 2021.
- Pimentel, T. C., Antunes, A. E. C., Zacarchenco, P. B., Cortez, M. A. S., Bogsan, C. S. B., Oliviera, M. N., Esmerino, E. A., Silva, M. C. & Cruz, A. G. (2017). Brazilian Yogurt-Like Products. In *Yogurt in Health and Disease Prevention* (pp. 337-342). Academic Press.
- Pratiwi, S. R. (2018). Uji Antibakteri dari Kombinasi Ekstrak Teh Hijau (*Camellia sinensis* L.) dan Kitosan terhadap *Staphylococcus aureus*. *Skripsi*, Fakultas Farmasi Universitas Hasanuddin Makassar.
- Purwandani, L., F. Imelda, dan L. Darus. (2018). Aktivitas Prebiotik Polisakarida Larut Air Biji Durian In Vitro pada *Lactobacillus plantarum*, *Lactobacillus acidophilus* dan *Bifidobacterium longum*, *FoodTech Jurnal Teknologi Pangan*, 1(1), 14-24.
- Puspitadewi, S. R. D., I. Srianta, & N. Kusumawati. (2015). Pola Produksi Pigmen *Monascus* oleh *Monascus* sp. Kjr 2 pada Media Biji Durian Varietas Petruk Melalui Fermentasi Padat, *Jurnal Teknologi Pangan & Gizi*, 15(1), 36-42.
- Putri, A., Erina, A. & Fakhrurrazi. (2018). Isolasi Bakteri Asam Laktat Genus *Lactobacillus* dari Feses Rusa Sambar (*Cervus unicolor*). *Jimvet*, 2(1), 170-176.
- Rachman, S. D., Djajasoepana, S., Kamara, D. S., Idar, I., Sutrisna, R., Safari, A., Suprijana, O. & Ishmayana, S. (2015). Kualitas *Yoghurt* yang Dibuak dengan Kultur Dua (*Lactobacillus bulgaricus* dan *Streptococcus thermophiles*) dan Tiga Bakteri (*Lactobacillus bulgaricus*, *Streptococcus thermophiles*, dan *Lactobacillus acidophilus*). *Chimica et Natura Acta*, 3(2), 76-79.
- Rahayu, S., Wathoni, N., Sriwidodo, & Sophianingsih, L. (2019). Fabrication of Native Starch and Enzymatically Modified Durian Seed (*Durio zibethinus* Murr.) starch. *Indo J Pharm*, 1(2), 40-45

- Rahman, Nurkhasanah, I. R. & Kumalasari. I. (2019). Optimasi Komposisi *Lactobacillus bulgaricus* dan *Streptococcus thermophilus* pada Yogurt Terfortifikasi Buah Lakum (*Cayratia trifolia* (L.) Domin) sebagai Antibakteri terhadap *Escherichia coli*. *Journal Pharmaceutical Sciences and Research*, 6(2), 99-106.
- Ramadhani, I. & Wahyuni. (2020). *Dasar-Dasar Praktikum Mikrobiologi*. CV Pena Persada.
- Ramos, M., Wurlitzer, N., Machado, T., Sucupira, N., & Modesto, A. (2015). Validation of an aseptic packaging system of liquid foods processed by UHT sterilization. *Chemical Engineering Transactions*, 44(6), 331-336.
- Ranadheera, R., Baines, S., & Adams, M. (2010). Importance of food in probiotic efficacy. *Food Research International*, 43(1), 1-7. doi: 10.1016/j.foodres.2009.09.009
- Rasbawati, Irmayati, Novieta, I. D., & Nurmiati. (2019). Karakteristik organoleptik dan nilai pH yoghurt dengan penambahan sari buah mengkudu (*Morinda citrifolia* L.). *Jurnal Ilmu Produksi dan Teknologi Hasil Peternakan*, 7(1), 41-46.
- Reid, G., Gadir, A., & Dhir, R. (2019). Probiotics: Reiterating What They Are and What They Are Not. *Frontiers In Microbiology*, 10. doi: 10.3389/fmicb.2019.00424
- Reygaert W. C. (2014). The antimicrobial possibilities of green tea. *Frontiers in microbiology*, 5, 434. <https://doi.org/10.3389/fmicb.2014.00434>
- Robinson, C. (1953). The hot and cold forms of gelatine, in: J.T. Randel (Ed.), *Nature and Structure of Collagen*, Academic Press, Inc, New York, 1953, pp. 96–105.
- Sano, T., Horie, H., Matsunaga, A., & Hirono, Y. (2018). Effect of shading intensity on morphological and color traits and on chemical components of new tea (*Camellia sinensis* L.) shoots under direct covering cultivation. *Journal Of The Science Of Food And Agriculture*, 98(15), 5666-5676. doi: 10.1002/jsfa.9112
- Sari, W. K., Astutiningsih, C., Suharsanti, R., & Wulan, A. A. H. (2019). Kajian Manajemen Produksi Pewarna Alami Angkak Powder yang Berpotensi sebagai Antioksidan dan Antibakteri. *Jurnal Farmasi & Sains Indonesia*, 2(1), pp. 99–105.
- Sarode, A., Sawale, P., Khedkar, C., Kalyankar, S., & Pawshe, R. (2016). Casein and Caseinate: Methods of

- Manufacture. *Encyclopedia Of Food And Health*, 676-682. doi: 10.1016/b978-0-12-384947-2.00122-7
- Satyam, N. (2021). Numerical modeling of biocemented soil behavior. *Modeling In Geotechnical Engineering*, 101-117. doi: 10.1016/b978-0-12-821205-9.00015-0
- Savaiano, D. (2014). Lactose digestion from yogurt: mechanism and relevance. *The American Journal Of Clinical Nutrition*, 99(5), 1251S-1255S. doi: 10.3945/ajcn.113.073023
- Sayuti, N., Kamarudin, N., Saad, N., Razak, N., & Esa, N. (2021). Optimized Green Extraction Conditions of Matcha Green Tea (*Camellia sinensis*) Using Central Composite Design for Maximal Polyphenol and Antioxidant Contents. *BioResources*, 16(2), 3255-3271.
- Schroder, L., Marahrens, P., Koch, J., Heidegger, H., Vilsmeier, T., & Phan-Brehm, T. et al. (2018). Effects of green tea, matcha tea and their components epigallocatechin gallate and quercetin on MCF-7 and MDA-MB-231 breast carcinoma cells. *Oncology Reports*. doi: 10.3892/or.2018.6789
- Science Photo Library. (2020a). *Lactobacillus acidophilus*, SEM. <https://www.sciencephoto.com/media/873997/view/lactobacillusacidophilus-sem>. Tanggal akses 16 Agustus 2022.
- Science Photo Library. (2020b). *Lactobacillus Bacteria*, SEM. <https://www.sciencephoto.com/media/589999/view>. Tanggal akses 16 Agustus 2022.
- Science Photo Library. (2020c). *Streptococcus thermophilus in yogurt*. <https://www.sciencephoto.com/media/13030/view>. Tanggal akses 21 Juli 2021.
- Science Photo Library. (2021). *Epigallocatechin Gallate (EGCG) Green Tea Polyphenol Molecule*. <https://www.sciencephoto.com/media/1073866/view>. Tanggal akses 16 Agustus 2022.
- Septiani, A. H., Kusrahayu & Legowo, A. M. (2013). Pengaruh Penambahan Susu Skim pada Proses Pembuatan *Frozen Yogurt* yang Berbahan Dasar *Whey* terhadap Total Asam, pH, dan Jumlah Bakteri Asam Laktat. *Animal Agriculture Journal*, 2(1), 225-231.
- Settachaimongkon, S., Nout, M. J., Antunes Fernandes, E. C., Hettinga, K. A., Vervoort, J. M., van Hooijdonk, T. C., Zwietering, M. H., Smid, E. J., & van Valenberg, H. J. (2014). Influence of different proteolytic strains of *Streptococcus thermophilus* in co-culture with *Lactobacillus delbrueckii*

- subsp. *bulgaricus* on the metabolite profile of set-yoghurt. *International journal of food microbiology*, 177, 29–36. <https://doi.org/10.1016/j.ijfoodmicro.2014.02.008>
- Setiarto, R. H. B., Widhyastuti, N., Saskiawan, I. & Safitri, R. M. (2017). Pengaruh Variasi Konsentrasi Inulin pada Proses Fermentasi oleh *Lactobacillus acidophilus*, *Lactobacillus bulgaricus* dan *Streptococcus Thermophilus*, *BIOPROPAL INDUSTRI*, 8(1), 1-17.
- Setyawardani, T., Sulistyowati, M., Widayaka, K., & Sumarmono, J. (2018). Sifat Sensoris Yogurt dengan Perbedaan Tingkat Kemanisan, *Prosiding Seminar Teknologi dan Agribisnis Peternakan VI: Pengembangan Sumber Daya Genetik Ternak Lokal Menuju Swasembada Pangan Hewani ASUH*, Universitas Jendral Soedirman, 7 Juli 2018, 347-353.
- Shah, N. P., Ding, W. K., Fallourd, M. J., & Leyer, G. (2010). Improving the stability of probiotic bacteria in model fruit juices using vitamins and antioxidants. *Journal of food science*, 75(5), M278–M282. <https://doi.org/10.1111/j.1750-3841.2010.01628.x>
- Shaker, R., Jumah, R., & Abu-Jdayil, B. (2000). *Rheological properties of plain yogurt during coagulation process: impact of fat content and preheat treatment of milk*. *Journal of Food Engineering*, 44(3), 175–180. doi:10.1016/s0260-8774(00)00022-4
- Sharangi, A. (2009). Medicinal and therapeutic potentialities of tea (*Camellia sinensis* L.) – A review. *Food Research International*, 42(5-6), 529-535. doi: 10.1016/j.foodres.2009.01.007
- Sieuwerts S (2016) Microbial Interactions in the Yoghurt Consortium, Current Status and Product Implications. *SOJ Microbiol Infect Dis*, 4(2), 1-5.
- Sivanesan, I., Gopal, J., Muthu, M., Chun, S., & Oh, J. (2021). Retrospecting the Antioxidant Activity of Japanese Matcha Green Tea–Lack of Enthusiasm?. *Applied Sciences*, 11(11), 5087. doi: 10.3390/app11115087
- Soeparno. (2021). *Properti dan Teknologi Produk Susu*. UGM Press.
- Sørensen, K., Curic-Bawden, M., Junge, M., Janzen, T., & Johansen, E. (2016). Enhancing the Sweetness of Yoghurt through Metabolic Remodeling of Carbohydrate Metabolism in *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subsp. *bulgaricus*. *Applied And Environmental*

- Microbiology*, 82(12), 3683-3692. doi: 10.1128/aem.00462-16
- Srianta, I., I. Nugerahani, & S. Ristiarini. (2020). Separation and Analysis of *Monascus* Yellow Pigment Produced on Durian Seed Substrate, *Food Research*, 4(4), 1135-1139.
- Srianta, I., S. Ristiarini, & I. Nugerahani. (2020). Pigmen Extraction from *Monascus-Fermented Durian Seed*, *International Conference on Food and Bioindustry 2019*, 443(2020), 1-7.
- Srianta, I., N. Kusumawati, I. Nugerahani, N. Artanti, & G. R. Xu. (2013). *In Vitro* α -glucosidase Inhibitory Activity of *Monascus-Fermented Durian Seed* Extracts, *International Food Research Journal*, 20(2), 533-536.
- Srianta, I., Hendrawan, B., Kusumawati, N., & Blanc, P. J. (2012). Study on Durian Seed As New Substrate for Angkak Production, *International Research Journal*, 19(3), 941-945.
- Sulistiyorini, F., Andriani, M. A. M., & Utami, R. (2011). The effect of various rice varieties to antimicrobial activity of red mould rice by *Monascus purpureus*. *Biofarmasi Journal of Natural Product Biochemistry*, 9(2), pp. 50–54. doi: 10.13057/biofar/f090204.
- Sumaryati, E. & Sudyono. (2015). KAJIAN AKTIVITAS ANTIBAKTERI EKSTRAK ANGKAK TERHADAP PERTUMBUHAN BAKTERI *Bacillus cereus* DAN *Bacillus stearothermophilus*. *Teknologi Pangan : Media Informasi dan Komunikasi Ilmiah Teknologi Pertanian*, 6(1). doi: 10.35891/tp.v6i1.461.
- Suryati, Nasrul, Z., Meriatna, & Suryani. (2015). Pembuatan dan Karakterisasi Gelatin dari Ceker Ayam dengan Proses Hidrolisis. *Jurnal Teknologi Kimia Unimal*, 4(2), 66-79.
- Tabasco, R., Sánchez-Patán, F., Monagas, M., Bartolomé, B., Victoria Moreno-Arribas, M., Peláez, C., & Requena, T. (2011). Effect of grape polyphenols on lactic acid bacteria and bifidobacteria growth: Resistance and metabolism. *Food Microbiology*, 28(7), 1345-1352. doi: 10.1016/j.fm.2011.06.005
- Tan, S., Stathopoulos, C., Parks, S., & Roach, P. (2014). An Optimised Aqueous Extract of Phenolic Compounds from Bitter Melon with High Antioxidant Capacity. *Antioxidants*, 3(4), 814-829. doi: 10.3390/antiox3040814

- Taniaji, S., Kusumawati, N., & Kuswardani, I. (2016). Pengaruh Jenis Gula dan Konsentrasi Ekstrak Teh Hijau terhadap Karakteristik Fisikokimia, Viabilitas Bakteri Asam Laktat, dan Organoleptik Yogurt *Non Fat*. *Jurnal Teknologi Pangan dan Gizi*, 15(1), 19-29.
- Tamime A.Y., Robisons R.K. *Tamime and Robinson's Yogurt: Science and Technology*. 3rd ed. Woodhead Publishing LTD; Cambridge, UK: 2007. Chapter 2 Background to manufacturing practice; pp. 11–118.
- Tanaka, K., Komiyama, A., Sonomoto, K., Ishizaki, A., Hall, S.J., & Stanbury, P. (2002). Two different pathways for D -xylose metabolism and the effect of xylose concentration on the yield coefficient of L -lactate in mixed-acid fermentation by the lactic acid bacterium *Lactococcus lactis* IO-1. *Applied Microbiology And Biotechnology*, 60(1-2), 160-167. doi: 10.1007/s00253-002-1078-5
- Tanaya, C., N. Kusumawati, & I. Nugerahani. (2014). Pengaruh Jenis Gula & Penambahan Sari Buah Anggur Probolinggo Terhadap Sifat Fisikokimia, Viabilitas Bakteri *Yogurt*, & Organoleptik *Yogurt Non Fat*, *Jurnal Teknologi Pangan & Gizi*, 13(2), 94-101.
- Tedjautama, E. & Zubaidah, E. (2014). Peningkatan Produksi Pigmen Merah Angkak Tinggi Lovastatin Menggunakan Ko-Kultur *Monascus purpureus* dan *Saccharomyces cerevisiae*. *Jurnal Pangan dan Agroindustri*, 2(4), 78-88.
- Teixeira, P. (2014). LACTOBACILLUS | *Lactobacillus delbrueckii* ssp. *bulgaricus*. *Encyclopedia Of Food Microbiology*, 425-431. doi: 10.1016/b978-0-12-384730-0.00177-4
- Todd, D. (2014). Solvent Extraction. *Fermentation And Biochemical Engineering Handbook*, 225-238. doi: 10.1016/b978-1-4557-2553-3.00012-x
- Tomovska, J., Gjorgievski, N., & Makarijoski, B. (2016). Examination of pH, Titratable Acidity, and Antioxidant Activity in Fermented Milk, *Journal of Material Science and Engineering*, 6(11-12), 326-333.
- Topolska, K., Florkiewicz, A., & Filipiak-Florkiewicz, A. (2021). Functional Food—Consumer Motivations and Expectations. *International Journal Of Environmental Research And Public Health*, 18(10), 5327. doi: 10.3390/ijerph18105327

- Tranggono, O. 2021. Pengaruh Perbedaan Konsentrasi Ekstrak Angkak Biji Durian terhadap Sifat Kimia dan Mikrobiologis Yogurt, *Skripsi*, Fakultas Teknologi Pertanian, Universitas Katolik Widay Mandala, Surabaya.
- Trick, J., Stuart, M., & Reeder, S. (2018). Contaminated Groundwater Sampling and Quality Control of Water Analyses. *Environmental Geochemistry: Site Characterization, Data Analysis And Case Histories*, 25-45. doi: 10.1016/b978-0-444-63763-5.00004-5
- Tufail, M., Shahzad, H., Farnaz, M., Tahira, M., Ghazala, P., Shazia, S., Amina, W., Rashid, M., Rafique, A., & Alia, S. (2011). Isolation and evaluation of antibacterial activity of bacteriocin produced by *Lactobacillus bulgaricus* from yogurt. *African Journal of Microbiology Research*, 5(22), 3842-3847
- Tyl, C., & Sadler, G. D. (2017). pH and Titratable Acidity. *Food Analysis*, 389-406. doi:10.1007/978-3-319-45776-5_22
- Unno, K., Furushima, D., Hamamoto, S., Iguchi, K., Yamada, H., & Morita, A. et al. (2018). Stress-Reducing Function of Matcha Green Tea in Animal Experiments and Clinical Trials. *Nutrients*, 10(10), 1468. doi: 10.3390/nu10101468
- Uriot, O., S. Denis, M. Junjua, Y. Roussel, A. D. Mourot, S. B. Diot. (2017). *Staphylococcus thermophilus*, From Yogurt Starter to A New Promising Probiotic Candidate?, *Journal of Functional Food*, 37, 74-89.
- Utami, M. P. D., Pantaya, D., Subagja, H., Ningsih, N. & Dewi, A. C. (2020). Teknologi Pengolahan *Yoghurt* sebagai Diversifikasi Produk Susu Kambing pada Kelompok Ternak Desa Wonoasri Kecamatan Tempurejo Kabupaten Jember. *Prima*, 4(1), 30-35.
- Vastrad, J. V. , Badanayak, P., & Goudar, G. (2021). *Phenolic Compounds in Tea: Phytochemical, Biological, and Therapeutic Applications*. In (Ed.), *Phenolic Compounds - Chemistry, Synthesis, Diversity, Non-Conventional Industrial, Pharmaceutical and Therapeutic Applications*. IntechOpen. <https://doi.org/10.5772/intechopen.98715>
- Vélez-Cruz, R., & Osheroff, N. (2004). DNA Topoisomerases: Type II. *Encyclopedia Of Biological Chemistry*, 806-811. doi: 10.1016/b0-12-443710-9/00680-3
- Venkateswaran, V. & Vijayalakshmi, G. (2010). Finger millet (*Eleusine coracana*) – an Economically Viable Source for Antihypercholesterolemic Metabolites Production by

- Monascus purpureus*. *Journal of Food Science and Technology*, 47(4), 426- 431.
- Walker, J., Dorsey, B., & Jones, M. (2019). Nutraceuticals and Metabolic Syndrome. *Nutraceuticals And Natural Product Pharmaceuticals*, 167-195. doi: 10.1016/b978-0-12-816450-1.00006-4
- Wang, Y., Wu, J., Lv, M., Shao, Z., Hungwe, M., & Wang, J. et al. (2021). Metabolism Characteristics of Lactic Acid Bacteria and the Expanding Applications in Food Industry. *Frontiers In Bioengineering And Biotechnology*, 9. doi: 10.3389/fbioe.2021.612285
- Weiss, D., & Anderton, C. (2003). Determination of catechins in matcha green tea by micellar electrokinetic chromatography. *Journal Of Chromatography A*, 1011(1-2), 173-180. doi: 10.1016/s0021-9673(03)01133-6
- Weerathilake, W., Rasika, D., Ruwanmali, J., & Munasinghe, M. (2014). The evolution, processing, varieties and health benefits of yogurt. *International Journal of Scientific and Research Publications*, 4(4). ISSN: 2250-3153
- Widagdha, S. & Nisa, F. C. (2015). Pengaruh Penambahan Sari Anggur (*Vitis vinifera* L.) dan Lama Fermentasi terhadap Karakteristik Fisiko Kimia *Yoghurt*. *Jurnal Pangan dan Agroindustri*, 3(1), 248-258.
- Wijaya, C., Kusumawati, N. & Nugerahani, I. (2012). Pengaruh Jenis Gula dan Penambahan Sari Nanas-Wortel terhadap Sifat Fisikokimia, Viabilitas Bakteri Yogurt, serta Organoleptik Yogurt Non-Fat. *Jurnal Teknologi Pangan dan Gizi*, 11(2), 18-26.
- Winarno, F., & Fernandez, I. (2007), *Susu dan Produk Fermentasinya*. M-Brio Press, Bogor.
- Xing, L., Zhang, H., Qi, R., Tsao, R., & Mine, Y. (2019). *Recent Advances in the Understanding of the Health Benefits and Molecular Mechanisms Associated with Green Tea Polyphenols*. *Journal of Agricultural and Food Chemistry*. doi:10.1021/acs.jafc.8b06146
- Xu, P., Bao, J., Gao, J., Zhou, T., & Wang, Y. (2012). Optimization of extraction of phenolic antioxidants from tea (*Camellia sinensis* L.) fruit peel biomass using response surface methodology. *BioResources*, 7(2), 2431-2443. DOI: 10.15376/biores.7.2.2431-2443

- Yan, Z., Zhong, Y., Duan, Y., Chen, Q., & Li, F. (2020). Antioxidant mechanism of tea polyphenols and its impact on health benefits. *Animal Nutrition*, 6(2), 115-123. doi: 10.1016/j.aninu.2020.01.001
- Yildiz, F. (2016). *Development and Manufacture of Yogurt and Others Functional Dairy Products*. CRC Press.
- Zain, W. N. H., & B. Kuntoro. (2017). Karakteristik Mikrobiologis & Fisik Yogurt Susu Kambing dengan Penambahan Probiotik *Lactobacillus acidophilus*, *Jurnal-Jurnal Ilmu Perternakan*, 20(1), 1-8.