

DAFTAR PUSTAKA

- Aguilar-Toalá, J.E. 2018. Postbiotics: An evolving term within the functional foods field. *Trends in Food Science & Technology*, 75, 105–114.
- Alakomi, H. L., Skyttä, E., Saarela, M., Mattila-Sandholm, T., Latva-Kala, K., dan Helander, I. M. 2000. Lactic acid permeabilizes Gram-negative bacteria by disrupting the outer membrane. *Applied and Environmental Microbiology*, 66(5): 2001–2005.
- Amalia, S., Sri Wahdaningsih, and E. K. Untari. 2014. Uji Aktivitas Fraksi N-Heksan Kulit Buah Naga Merah (*Hylocereus Polyrhizus* Britton and Rose) Terhadap Bakteri *Staphylococcus Aureus* ATCC 25923. *Trad Med Journal*. 19(2): 89-94.
- Andayani, N., Nurhayati, D., dan Saing, M.D. 2021. Optimasilisasi Pertumbuhan Bakteri *E. coli* dan *Bacillus subtilis* pada Media Edamame Agar. *Jurnal Pengembangan Potensi Laboratorium*, 1(1).
- Barlina, R. 2004. Potensi Buah Kelapa Muda Untuk Kesehatan dan Pengolahannya. *Jurnal Perspektif* Volume 3, Nomor 2, Desember 2004: halaman 46-60. Litbang Pertanian. Diakses 22 Juni 2021. litbang.pertanian.go.id/index.php/psp/article/viewFile/5583/4758.
- Chang, C. K., Lin, Y. C., Lu, W. J. 2021. A synbiotic fermented milk improves antioxidant activity, regulates lipid metabolism and reduces inflammation in mice. *Food & Function*, 12(3), 1093–1102.
- Crowley, S., Mahony, J., and van Sinderen, D. 2013. Current perspectives on antifungal lactic acid bacteria. *Microbial Biotechnology*, 6(6): 573–583.
- Davis, W. W., and Stout, T. R. 1971. Disc Plate Method of Microbiological Antibiotic Assay: I. Factors Influencing Variability and Error. *Applied Microbiology*. 22(4): 659-665.
- de Almada, C. N., Almada, C. N., Martinez, R. C. R., and Sant'Ana, A. S. 2016. Paraprobiotics and postbiotics: Concepts and potential applications in dairy products. *Current Opinion in Food Science*, 7, 1–8.
- De Man, J. C., Rogosa, M., and Sharpe, M. E. 1960. A medium for the cultivation of lactobacilli. *Journal of Applied Bacteriology*, 23(1), 130–135.
- Dirayati, Abdul Gani, Erlidawati. 2017. Pengaruh Jenis Singkong Dan Ragi Terhadap Kadar Etanol Tape Singkong, *Jurnal IPA dan Pembelajaran IPA (JIPI)*, 1(1): 26-33.
- Fang, Y. Z., Yang, S., and Wu, G. 2002. Free Radicals, Antioxidants, and Nutrition. *Nutrition*, 18(10), 872–879.

- Fardiaz, S. 1992. Mikrobiologi Pangan 1. Jakarta: Gramedia Pustaka Utama.
- Fardiaz, S., Nuraeni, ED dan Kusumaningrum, H. 1996. Pemanfaatan Air Kelapa Untuk Produksi Minuman Sehat Antidiare Melalui Proses Fermentasi Laktat. Biografi. Tek dan Industri, Vol. VII tidak. 2. Bogor.
- Febrisiantosa, A., Haryanto, B., and Sari, D. 2013. Aktivitas antijamur hasil fermentasi air kelapa menggunakan bakteri asam laktat. Jurnal Teknologi Hasil Pertanian, 6(1), 22–30.
- Fitriana, W. D., Fatmawati, S., and Ersam, T. 2015. Uji aktivitas antioksidan terhadap DPPH. Jurnal Ilmu Kefarmasian Indonesia, 13(1): 45–50.
- Ghofar A, Ogawa S, Kokugan T. 2005. Production of L-lactic acid from fresh cassava roots slurried with tofu liquid waste by *Streptococcus bovis*. J Biosci Bioeng. 100 (6): 606–612.
- Goyal, N., and Gandhi, D. N. 2009. Comparative analysis of Indian paneer and cheese whey for electrolyte whey drink. World Journal of Dairy & Food Sciences, 4(1), 70–72.
- Gupta, R., Beg, Q. K., and Lorenz, P. 2002. Bacterial alkaline proteases: molecular approaches and industrial applications. Applied Microbiology and Biotechnology, 59(1), 15–32.
- Hariyadi, W. 2009. Air Kelapa Muda sebagai Minuman Isotonik Alami. <http://www.kompas.com/kompas-cetak/Q207/11/ipitek/airk28.htm>. Diakses tgl 12 April 2021.
- Helna Pious, V., Haripriya, R. S., and Joseph, G. S. 2024. Functional postbiotic fermented whey beverage using *Pichia kudriavzevii* Y01. The Journal of Rural and Agricultural Research, 24(1), 34–39.
- Hester, L. L., Sarvary, M. A., and Ptak, C. J. 2014. Mutation and Selection: An Exploration of Antibiotic Resistance in *Serratia marcescens*. Tasted Studies for Laboratory Teaching. Proceedings of the Association for Biology Laboratory Education. 35: 140–183.
- Hur, S. J., Lee, S. Y., Kim, Y. C., Choi, I., and Kim, G. B. 2014. Effect of fermentation on the antioxidant activity in plant-based foods. Food Chemistry, 160, 346–356.
- Irianto, K. 2006. Mikrobiologi: Menguak Dunia Mikroorganisme. Bandung: CV Yrama Widya
- Izuddin WI, Loh TC, Samsudin AA, Foo HL. 2019. In vitro study of postbiotics from *Lactobacillus plantarum* RG14 on rumen fermentation and microbial population. R Bras Zootec. 47:1–7.
- Jay, J. M., Loessner, M. J., and Golden, D. A. 2005. Modern Food Microbiology. (7), 387–392.

- Kadarwati, S., Basuki, W., and Rudiyanto, A. 2009. Kemampuan Air Kelapa sebagai Nutrisi untuk Pertumbuhan Mikroba Minyak Bumi. Lembaran Publikasi Lemigas. Vol.43(1): 38-44.
- Kadhim, R.A., Al-Saadoon, A.H., and Al-Mahmoud, W.A. 2019. Morphological and Phylogenetic Identification of *Pichia* Species Associated with Foods in Basrah, Iraq. *Basrah Journal of Science*, 37(2): 223–236.
- Khakpour, M., Mohsenzadeh, M., and Salari, A. 2024. Feasibility of *Lactiplantibacillus plantarum* postbiotics production in challenging media by different techniques. *AMB Express*, 14, Article 74.
- Kumalaningsih, sri. 2014. *Pohon industri potensial*. Malang: UB Press.
- Kurtzman, CP; Robnett, CJ; Baschoar-Powers, E. 2008. Hubungan filogenetik antar spesies *Pichia*, *Issatchenkia* dan *Williopsis* ditentukan dari analisis urutan multigen, dan usulan *Barnettozyma* *nov.*, *Lindnera* *nov.* dan *Wickerhamomyces* *nov.* *FEMS Ragi Res.*, (8), 939–954.
- Kusmiyati, dan Agustini, N. W. R. 2007. Uji aktivitas senyawa antibakteri dari mikroalga *Porphyridium cruentum*. *Biodiversitas*, 8(1), 48-53.
- Lee, J. H. 2019. Antioxidant and antimicrobial activities of lactic acid bacteria fermented products. *Food Science and Biotechnology*, 28(4), 1025-1033.
- Leroi, F., and Pilet, M. F. 2000. Bacteriocin-producing lactic acid bacteria in the mixed flora of seafood products. *Journal of Applied Microbiology*, 88(5), 805–813.
- Liu, Y., Zhang, H., and Wang, J. 2025. Functional postbiotics and their antimicrobial mechanisms. *Food Bioscience*, 61: 105214.
- Mantle D, Edded F, Pickering AT. 2000. Comparison of relative antioxidant activities of British medicinal plant species in vitro. *J Ethnopharmacol.* 72(1):47 51.
- Marco, M. L. 2021. Health benefits of fermented foods: microbiota and beyond. *Current Opinion in Biotechnology*, 68, 79-89.
- Marlida Y, Huda N, Harnentis H, Nur YS, Lestari NM, Adzitey F, Sulaiman MR. 2021. Khamir probiotik potensial yang diisolasi dari ikan fermentasi asli Indonesia (ikan Budu) *Potravinarstvo Slovak J. Food Sci.* 15:460–466.
- Marlida, Y., Shun, T.J., Syofyan, S., Ardani, L.R., Anggraini, L. (2024). Postbiotic studies of mixed cultures of *Schleiferilactobacillus harbinensis* LH991 and *Pichia kudriavzevii* B-5P produced by in vitro rumen producing short-chain fatty acid. *Veterinary World*, 17(11), 2694–2700.
- Mirzah and H. Muis. 2015. Improving the nutritional quality of cassava peel waste by fermentation using *Bacillus amyloliquefaciens*. *Peternakan Indonesia Journal*, 17(2): 131-142.

- Miyamoto, M., Seto, Y., Hao, D. H., Teshima, T., Sun, Y. B., Kabuki, T., Yao, L. B., Nakajima, H. 2005. *Lactobacillus harbinensis* sp. consisted of strains isolated from traditional fermented vegetables 'Suan cai' in Harbin, Northeastern China and *Lactobacillus perolens* DSM 12745. *Systematic and applied microbiology*, 28(8), 688-694.
- Moradi, M., Kousheh, S. A., Almasi, H., Alizadeh, A., Guimarães, J. T., Toy, N., and Lotfi Javid, A. 2020. Postbiotics produced by lactic acid bacteria: The next frontier in food safety. *Comprehensive Reviews in Food Science and Food Safety*, 19(6): 3390–3415.
- Nurhikmayani, N., and Nurliyani. 2015. Potensi bakteri asam laktat sebagai probiotik dan penghasil bakteriosin. *Jurnal Peternakan Indonesia*, 17(2), 77–86.
- Obruca, S., Marova, I., Melusova, S. dan Ondruska, V. 2009. Production of polyester-based bioplastics by *Bacillus megaterium* grown on waste cheese whey substrate under exogenous stress. *New Biotechnology* (25). (Suppl.1): 257–263.
- Oroh, S. B. Febby E.F. Kandou, Johanis Pelealu, dan Dingse Pandiangan. 2015. Uji Daya Hambat Ekstrak Metanol *Selaginella Delicatula* Dan *Diplazium Dilatum* Terhadap Bakteri *Staphylococcus aureus* dan *Escherichia coli*. *Jurnal Ilmiah sains* 15 (1): 52-58.
- Ounis W, Champagne CP, Makhoul J, Bazinet L. 2007. Utilization of tofu whey pre-treated by electromembrane process as a growth medium for *Lactobacillus plantarum* LB17. *Desalination*. 229 : 192-203.
- Patani A. Balram D. Yadav V. K. Lian K.-Y. Patel A. Sahoo D. K. 2023. Harnessing the power of nutritional antioxidants against adrenal hormone imbalance-associated oxidative stress. *Front Endocrinol*. 14:1271521.
- Pelczar, M.J., Chan, E.C.S., and Krieg, N.R. 2008. *Microbiology*. McGraw-Hill Book Company. New York.
- Pérez-Ramos, A., Madi-Moussa, D., Coucheney, F., and Drider, D. 2021. Current Knowledge of the Mode of Action and Immunity Mechanisms of LAB-Bacteriocins. *Microorganisms*, 9(10): 2107.
- Pescuma, M., Hébert, E. M., Mozzi, F., and de Valdez, G. F. 2015. Whey fermentation by lactic acid bacteria: Towards functional whey proteins. *Food Microbiology*, 46, 123–133.
- Poelongan, M., Iyep, K., and Noor, S. M. 2006. Aktivitas antibakteri beberapa ekstrak tanaman obat. *Jurnal Mikrobiologi Indonesia*, 11(1): 15–20.
- Prades, A., Dornier, M., Diop, N., and Pain, J. P. 2012. Coconut water uses, composition and properties: a review. *Fruits*, 67(2), 87–107.

- Pratiwi, S.T. 2008. Mikrobiologi Farmasi. Jakarta: Erlangga.
- Prayoga, E. 2013. Perbandingan Efek Ekstrak Daun Sirih Hijau (*Piper Betle* L.) Dengan Metode Difusi Disk Dan Sumuran Terhadap Pertumbuhan Bakteri *Staphylococcus aureus*. Skripsi. Universitas Islam Negeri Syarif Hidayatullah.
- Purwantini, I., Santosa, D., dan Cahyanto, H.A. 2002. Aktivitas Antifungi Ekstrak Buah Seledri. *Traditional Medicine Journal*. Fakultas Farmasi. Universitas Gadjah Mada. Yogyakarta.
- Putri, W. D. R., and Hidajati, N. 2015. Aktivitas antioksidan pada produk fermentasi pangan. *Jurnal Pangan dan Agroindustri*, 3(4): 1345–1352.
- Ribeiro, F. C., Rossoni, R. D., de Barros, P. P., Santos, J. D., Fugisaki, L. R. O., Leão, M. V. P., and Junqueira, J. C. 2020. Action mechanisms of probiotics on *Candida* spp. and candidiasis prevention: an update. *Journal of Applied Microbiology*, 129(2), 175–185.
- Ricke, S. C. 2003. Perspectives on the use of organic acids and short chain fatty acids as antimicrobials. *Poultry Science*, 82(4): 632–639.
- Rollando. 2019. Senyawa Antibakteri dari Fungi Endofit. Malang: Seribu Bintang.
- Romyasamit, C. 2025. Phenotypic and Genomic Insights into *Schleiferilactobacillus harbinensis* WU01, a Candidate Probiotic with Broad-Spectrum Antimicrobial Activity Against ESKAPE Pathogens. MDPI.
- Sadeghi, A., Hajinia, F., Azizi, M. H., and Mortazavi, S. A. 2020. The use of antifungal oat-sourdough lactic acid bacteria to improve safety and technological functionalities of the supplemented wheat bread. *Journal of Food Safety*, 41(1), e12873.
- Salminen, S., Collado, M. C., Endo, A., Hill, C., Lebeer, S., Quigley, E. M. M., and von Wright, A. 2021. ISAPP consensus statement on the definition and scope of postbiotics. *Nature Reviews Gastroenterology & Hepatology*, 18, 649–667.
- Salni. 2003. Karakteristik dan Uji Aktivitas Tropikal Senyawa Antibakteri dari Daun Karamutung (*Rhodomyrtus tomentosa* Ait Hassk). Dissertasi. ITB. Bandung.
- Sanders, M. E. 2008. Probiotics: definition, sources, selection, and uses. *Clinical Infectious Diseases*, 46(Supplement_2), S58-S61.
- Shaffitri, L. R., Wahida, Perdana, R. P., Ilham, N., dan Suryana, E. A. (2024). Implementasi kebijakan usaha pakan untuk mendukung pengembangan industri perunggasan. *Analisis Kebijakan Pertanian*, 22(1), 1–15.
- Sittipo P. Shim J. W. Lee Y. K. 2019. Microbial metabolites determine host health and the status of some diseases. *Int. J. Mol. Sci.* 20:5296.

- Steel, R. G. D., J. H. Torrie, dan D. A. Dickey. 1995. *Principles and Procedures of Statistics: A Biometrical Approach*, 3rd edition, McGraw-Hill, New York.
- Suhardiyono, L. (1988). *Tanaman Kelapa*. Kanisius : Yogyakarta.
- Sun, W. 2020. Stress tolerance mechanisms of *Pichia kudriavzevii*. *Applied Microbiology and Biotechnology*, 104(1), 153–163.
- Supriatna, D., and Hasrini, R.F. 2019. *Teknologi pengolahan tahu dan olahan kedelai lainnya*. Bogor: IPB Press.
- Susalam MK, Harnentis H, Marlida Y, Jamsari J, Ardani LR. 2024. Pengaruh konsorsium probiotik yang diisolasi dari ikan fermentasi (Budu) terhadap performa dan kualitas daging ayam pedaging. *Int. J. Vet. Sci.* 13(1):100–107.
- Susalam, R., Marlida, Y., Mirzah, M., and Wizna. 2022. Produksi postbiotik dari bakteri asam laktat dan potensinya sebagai antibakteri terhadap patogen ternak. *Jurnal Peternakan Indonesia*, 24(3): 215–223.
- Tamang, J. P. 2020. Functional properties of microorganisms in fermented foods. *Frontiers in Microbiology*, 10, 2923.
- Thi LN, Champagne CP, Lee BH, Goulet J. 2003. Growth of *Lactobacillus paracasei* ssp. *Paracasei* on tofu whey. *Int J Food Microbiol.* 89 : 67-75.
- Torres DP, Gonçalves MDPF, Teixeira JA, 2010. Galakto-oligosakarida: produksi, sifat, aplikasi, dan signifikansi sebagai prebiotik. *Compr Rev Ilmu Pangan Pangan Aman.* 9(5): 438-454.
- Tripathi M. 2014. Technology for utilization of tofu whey as growth media for production of probiotics strain and study of antioxidant activities. OMICS Group Conferences (Accelerating Scientific Discovery). 2nd International Conference on Agricultural and Horticultural Sciences. Hyderabad, India: February, 03-05 2014.
- Vilela, D. M., Pereira, G. V. M., Silva, C. F., Batista, L. R., and Schwan, R. F. 2015. Molecular ecology and polyphasic characterization of yeast communities. *Food Microbiology*, 52: 16–25.
- Vinderola, G., Ouwehand, A., Salminen, S., and von Wright, A. 2019. *Lactic Acid Bacteria: Microbiological and Functional Aspects* (5th ed.). Boca Raton: CRC Press.
- Wang, J., Zhao, X., Yang, Y., Zhao, A., and Yang, Z. 2020. Characterization and bioactivities of postbiotics derived from lactic acid bacteria. *Food Research International*, 137, 109556.
- Wegh, C. A. M. 2019. Postbiotics and their potential applications in early life nutrition and beyond. *International Journal of Molecular Sciences*, 20(19), 4673.

- Wulan, S. N., Rochima, E., and Kurniawati, H. 2021. Aktivitas antioksidan ekstrak postbiotik dari isolat *Pichia kudriavzevii* hasil fermentasi kakao. *Biodiversitas*, 22(2), 825–832.
- Yeni, A. M., and Sunarti, T. C. 2016. Penggunaan Substrat Whey Tahu Untuk Produksi Biomassa Oleh *Pediococcus pentosaceus* E. 1222. *Journal of Agroindustrial Technology*, 26(3).
- Yocheva, L., Tserovska, L., Danguleva-Cholakova, A., Todorova, T., Zhelezova, G., Karaivanova, E., and Georgieva, R. 2024. In Vitro Inhibitory Effects and Co-Aggregation Activity of Lactobacilli on *Candida albicans*. *Microbiology Research*, 15(3), 1576–1589.
- Yolmeh, M., Khomeiri, M., and Ahmadi, Z. 2017. Application of mixture design to introduce an optimum cell-free supernatant of multiple-strain mixture (MSM) for *Lactobacillus* against food-borne pathogens. *LWT - Food Science and Technology*, 83: 298–304.
- Zhang, Q., Liu, X., Zhao, J., and Liu, Y. 2023. *Pichia kudriavzevii* FZ12-derived postbiotics modulate gut microbiota and suppress diarrheal pathogens in vitro. *Food & Function*, 14, 6241–6254.
- Zivkovic, AM, Barile D. 2011. Susu sapi sebagai sumber oligosakarida fungsional untuk meningkatkan kesehatan manusia. *Nutrisi Lanjutan*. Tahun 2(3):284 289.
- Żółkiewicz, J. 2020. Postbiotics A step beyond pre- and probiotics. *Nutrients*, 12(8), 2189.

