

DAFTAR PUSTAKA

- Abeyrathne, E. D. N. S., Nam, K. & Ahn, D. U. (2021). Analytical methods for lipid oxidation and antioxidant capacity in food systems. *Antioxidants*, 10 (1587): 1–19.
- Adetunji, A. I. & Olaniran, A. O. (2021). Production strategies and biotechnological relevance of microbial lipases: a review. *Brazilian journal of microbiology*, 52(3): 1257–1269.
- Aguirre, G. O., Vazquez, A. T. P., Garcia, J. R. S., Zarate, A. S., Flores, A. A. O., Campos, M. R. S., Perez, E. V. B. & Canul, A. J. C. (2023). Using plant-based compounds as preservatives for meat products: a review. *Heliyon*, 9(6).
- Alessandrini, L., Scortichini, S., Caprioli, G., Fiorini, D., Huang, X., Silvi, S., Galli, R. & Sagratini, G. (2024). Assessing chemical, microbiological and sensorial shelf-life markers to study chicken meat quality within divergent production systems (organic vs. conventional). *European Food Research and Technology*, 250, 771–783.
- Amaral, A. B., Silva, M. V. D. & Lannes, S. C. D. S. (2018). Lipid oxidation in meat: mechanisms and protective factors – a review. *Food Science and Technology*, 38(29): 1–15.
- Amiri, S., Moghanjoughi, Z. M., Bari, M. R. & Khaneghah, A. M. (2021). Natural protective agents and their applications as bio-preservatives in the food industry: an overview of current and future applications. *Italian Journal of Food Science*, 33(SP1): 55–68.
- Ananta, D. A., Putra, G. P. G. & Arnata, I. W. (2021). Pengaruh suhu dan waktu maserasi terhadap aktivitas antioksidan ekstrak kulit buah kakao (*Theobroma cacao* L.). *Jurnal Rekayasa dan Manajemen Agroindustri*, 9(2): 186–197.
- Ashurst, J. V., Truong, J. & Woodbury, B. (2023). Typhoid Fever (*Salmonella typhi*) (Archived). In *StatPearls*. StatPearls Publishing.
- Asworo, R. Y. & Widwastuti, H. (2023). Pengaruh ukuran serbuk simplisia dan waktu maserasi terhadap aktivitas antioksidan ekstrak kulit sirih. *Indonesian Journal of Pharmaceutical Education*, 3(2): 256–263.
- Awojide, S. H., Ajayi, O. P., Adeyemo, A. G., Olabintan, O. M., Obunadike, C., Adetunji, J. B. & Anifowose, A. J. (2025). Phytochemical profiling and pharmacological activities of ethanol and n-hexane extracts of *Daniellia oliveri*. *Discover Chemistry*, 2(212): 1–24.
- Badan Pengawas Obat dan Makanan (BPOM) Republik Indonesia. (2012).
- Badan Pusat Statistik (BPS) Republik Indonesia. (2024). *Produksi Daging Ayam Ras Pedaging menurut Provinsi (Ton)*.
- Badan Pusat Statistik (BPS) Republik Indonesia. (2024). *Rata-Rata Konsumsi per Kapita Seminggu Beberapa Macam Bahan Makanan Penting, 2007-2024*.
- Bagalkotkar, G., Sagineedu, S. R. Saad, M. S. & Stanslas, J. (2006). Phytochemicals from *Phyllanthus niruri* Linn. and their pharmacological properties: a review. *Journal of Pharmacy and Pharmacology*, 58(12): 1559–1570.

- Balouiri, M., Sadiki, M. & Ibnsouda, S. K. (2016). Methods for in vitro evaluating antimicrobial activity: A review. *Journal of pharmaceutical analysis*, 6(2): 71–79.
- Baron, S. (1996). *Salmonella*. In S. Baron, *Medical Microbiology: 4th edition*. University of Texas Medical Branch at Galveston.
- Belgacem, B., Farah, Bellag, Oualid, Ahmad, Abdul, Noorbacha, Ali, I. Hamzah, S. (2017). Palm oil mill effluent metagenome for cellulose-degrading enzymes. *Journal of Basic And Applied Research*, 3: 101-106.
- Beya, M. M., Netzel, M. E., Sultanbawa, Y., Smyth, H. & Hoffman, L. C. (2021). Plant-based phenolic molecules as natural preservatives in comminuted meats: a review. *Antioxidants*, 10(263): 1–18.
- Brul, S. & Coote, P. (1999). Preservative agents in foods. Mode of action and microbial resistance mechanisms. *International journal of food microbiology*, 50(1-2): 1–17.
- Buzilă, E. R., Dorneanu, O. S., Trofin, F., Sima, C. M. & Iancu, L. S. (2025). Assessing *Salmonella typhi* pathogenicity and prevention: the crucial role of vaccination in combating typhoid fever. *International journal of molecular sciences*, 26(9): 3981.
- Camarda, L., Budriesi, R., Corazza, I., Frosini, M., Marzetti, C. & Mattioli, L. B. (2026). Antioxidant and health-related effects of tannins: from agri-food by-products to human and animal health. *Antioxidants*, 15(1): 104.
- Chandana, G. A., Manasa, R. L., Vishwanath, S., Shekaram N. R. & Mahesh, M. (2020). Antimicrobial activity of *Phyllanthus niruri* (chanka piedra). *IP Journal of Nutrition, Metabolism and Health Science*, 3(4): 103–108.
- Chen, L., Wang, Y., Li, X., MacAdam, J. W. & Zhang, Y. (2023). Interaction between plants and epiphytic lactic acid bacteria that affect plant silage fermentation. *Front. Microbiol.* 14: 1–7.
- Cueva, C., Arribas, M. V. M., Alvarez, P. J. M., Bills, G., Vicente, M. F., Basilio, A., Rivas, C. L., Requena, T., Rodriguez, J. M. & Bartolome, B. (2010). Antimicrobial activity of phenolic acids against commensal, probiotic and pathogenic bacteria. *Research in Microbiology*, 161: 372–382.
- Dalynn, B. (2014). *McFarland Standard*. Canada: Dalynn Biologicals.
- Darbandi, A., Asadi, A., Ari, M. M., Ohadi, E., Talebi, M., Zadeh, M. H., Emamie, A. D., Ghanavati, R. & Kakanj, M. (2021). Bacteriocins: properties and potential use as antimicrobials. *Journal of Clinical Laboratory Analysis*, 36: 1–40.
- Davies, D. D., Grego, S. & Kenworthy, P. (1974). The control of the production of lactate and ethanol by higher plants. *Planta*, 118(4): 297–310.
- Davis, W. W. & Stout, T. R. (1971). Disc plate methods of microbiological antibiotic assay. *Microbiology*, 22: 659–665.
- Dewangga, V. S. & Qurrohman, M. T. (2019). Potensi antibakteri ekstrak etanol herba meniran hijau (*Phyllanthus niruri* Linn.) dalam menghambat pertumbuhan *Staphylococcus aureus*. *Jurnal Kesehatan Kusuma Husada*, 144–150.
- Dhiyausyifa, F., Mudaliana, S. & Juwita, R. (2025). Efektivitas antibakteri sediaan sabun padat mangir terhadap *Staphylococcus aureus* dan *Escherichia coli*. *Proceedings of Life and Applied Sciences*, 11–15.

- Dludla, P. V., Jack, B., Viraragavan, A., Pheiffer, C., Johnson, R., Louw, J. & Mueller, C. J. F. (2018). A dose-dependent effect of dimethyl sulfoxide on lipid content, cell viability and oxidative stress in 3t3-l1 adipocytes. *Toxicology Reports*, 5: 1014–1020.
- Dolferus, R., Wolansky, M., Carroll, R., Miyashita, Y., Ismond, K. & Good, A. (2008). Functional analysis of lactate dehydrogenase during hypoxic stress in *Arabidopsis*. *Functional plant biology : FPB*, 35(2): 131–140.
- Domínguez, R., Pateiro, M., Gagaoua, M., Barba, F. J., Zhang, W. & Lorenzo, J. M. (2019). A comprehensive review on lipid oxidation in meat and meat products. *Antioxidants*, 8(429): 1–31.
- Eghbaliferiz, S. & Iranshahi, M. (2016). Prooxidant activity of polyphenols, flavonoids, anthocyanins and carotenoids: updated review of mechanisms and catalyzing metals. *Phytotherapy Research*.
- Fan, X., Ngo, H. & Wu, C. (2018). Natural and Bio-based Antimicrobials: A Review. *American Chemical Society*.
- Farhana, A. & Lappin, S. L. (2023). Biochemistry, Lactate Dehydrogenase. In *StatPearls*. StatPearls Publishing.
- Fernandes, F. A., Carochio, M., Heleno, S. A., Rodrigues, P., Dias, M. I., Pinela, J., Prieto, M. A., Gandara, J. S., Barros, L. & Ferreira, I. C. F. R. (2020). Effect of natural preservatives on the nutritional profile, chemical composition, bioactivity and stability of a nutraceutical preparation of *Aloe arborescens*. *Antioxidants*, 9(281): 1–20.
- Food and Agriculture Organization of United Nation (FAO). (2025). *Prospects for aggregate agriculture and major commodity groups*.
- Galvao, J., Davis, B., Tilley, M., Normando, E., Duchon, M. R. & Cordeiro, M. F. (2014). Unexpected low-dose toxicity of the universal solvent DMSO. *FASEB journal: official publication of the Federation of American Societies for Experimental Biology*, 28(3): 1317–1330.
- Gao, Y., Yuan, D., Gai, L., Wu, X., Shi, Y., He, Y., Liu, C., Zhang, C., Zhou, G. & Yuan, C. (2021). Saponins from *Panax japonicus* ameliorate age-related renal fibrosis by inhibition of inflammation mediated by NF- κ B and TGF- β 1/Smad signaling and suppression of oxidative stress via activation of Nrf2-ARE signaling. *Journal of ginseng research*, 45(3): 408–419.
- Geng, L., Liu, K. & Zhang, H. (2023). Lipid oxidation in foods and its implications on proteins. *Frontiers in Nutrition*, 10: 1–12.
- Gerung, W. H. P., Fatimawali, & Antasionasti, I. (2013). Uji aktivitas antibakteri ekstrak daun belimbing botol (*Averrhoa bilimbi* L.) terhadap pertumbuhan bakteri *Propionibacterium acne* penyebab jerawat. *PHARMACON*, 10(4): 1087–1093.
- Graciá, C. M., Bermúdez, C. A. G., Valcárcel, A. M. C., Pascual, M. S. & Saseta, C. F. (2015). Use of herbs and spices for food preservation: advantages and limitations. *Current Opinion in Food Science*, 6: 38–43.
- Gyawali, R., Hayek, S. A. & Ibrahim, S. A. (2015). Plant extracts as antimicrobials in food products: mechanisms of action, extraction methods, and applications. In *Handbook of Natural Antimicrobials for Food Safety and Quality*, 49–62.

- Hidanah, S., Sabdoningrum, E. K., Rachmawati, K., Soeharsono, S., Trika, G. G. A., Huda, M. A. & Widiati, T. P. (2022). The activity of meniran (*Phyllanthus niruri* Linn.) extract on *Salmonella pullorum* infected broilers. *Veterinary world*, 15(5): 1373–1382.
- Hossain, M. L., Lim, L. Y., Hammer, K., Hettiarachchi, D. & Locher, C. (2022). A review of commonly used methodologies for assessing the antibacterial activity of honey and honey products. *Antibiotics*, 11(7): 975.
- Hu, J., Wang, Y., Ding, H., Jiang, C., Geng, Y., Sun, X., Jing, J., Gao, H., Wang, Z., Dong, C., 2020. Recombinase polymerase amplification with polymer flocculation sedimentation for rapid detection of *Staphylococcus aureus* in food samples. <https://doi.org/10.1016/j.ijfoodmicro.2020.108691>.
- Jiang, W., Zheng, S., Yuan, C., Gao, Q., Xiang, C., Tian, S., Li, J. & Zhao, Y. (2023). Study on extraction technology and antioxidant activity of total alkaloids from *Hemsleya chinensis* based on orthogonal design and BP neural network. *Heliyon*, 9(10): e20680.
- Jumaah, N., Joshi, S. R. & Sandai, D. (2014). Prevalence of bacterial contamination when using a diversion pouch during blood collection: a single center study in Malaysia. *Malaysian Journal of Medical Sciences*, 21(3): 47–53.
- Kamel, Fouad., Jarjes, F. & Sanaria. (2015). *Essentials of Bacteriology and Immunology*.
- Kareem, K. O., Holdbrooke, S., Aina, O. O., Bamgbose, D. J., Ochuko, C., Olunaike, G., Ojuko, F. N. & Otun, A. A. (2024). Phytochemical and GC–MS profiling of ethanol extract of African breadfruit (*Treculia africana* Decne) seeds. *Discover Plants*, 1(47): 1–12.
- Karslake, J., Maltas, J., Brumm, P. & Wood, K. B. (2016) Population density modulates drug inhibition and gives rise to potential bistability of treatment outcomes for bacterial infections. *PLoS Comput Biol*, 12(10): e1005098.
- Kauffmann, A. C. & Castro, V. S. (2023). Phenolic compounds in bacterial inactivation: a perspective from Brazil. *Antibiotics*, 12(645): 1–24.
- Kaur, N., Kaur, B. & Sirhindi, G. (2017). Phytochemistry and pharmacology of *Phyllanthus niruri* L.: a review. *Phytotherapy Research*, 1–26.
- Khoiriyah, S. Pradana, A. & Kurniawati, I. (2025). Aktivitas antibakteri ekstrak etanol daun cengkeh (*Syzygium aromaticum* (L.) Merr. & Perry) terhadap bakteri *Escherichia coli*. *Jurnal Riset Ilmu Kesehatan Umum dan Farmasi*, 3(1): 193–202.
- Khurniyati, M. I. & Estiasih, T. (2015). Pengaruh konsentrasi natrium benzoat dan kondisi pasterisasi (suhu dan waktu) terhadap karakteristik minuman sari apel berbagai varietas : kajian pustaka. *Jurnal Pangan dan Agroindustri*, 3(2): 532–529.
- Kieliszek, M., Pobiega, K., Piwowarek, K. & Kot, A. M. (2021). Characteristics of the proteolytic enzymes produced by lactic acid bacteria. *Molecules*, 26(7): 1858.
- Kim, J. H. & Lee, S. Y. (2021). Effect of NaCl addition on the antibacterial effectiveness of acetic acid and its salts against pathogenic bacteria. *Food Control*, 123: 1–10.

- Kim, S. J., Cho, A. R. & Han, J. (2013). Antioxidant and antimicrobial activities of leafy green vegetable extracts and their applications to meat product preservation. *Food Control*, 29: 112–120.
- Kowalewska, A. & Smolarek, K. M. (2023). Self-healing antimicrobial silicones—mechanisms and applications. *Polymers*, 15: 1–23.
- Kumar, S., Chaitanya, R. K. & Preedy, V. R. (2018). Assessment of Antioxidant Potential of Dietary Components. In *HIV/AIDS: Oxidative Stress and Dietary Antioxidant*. Academic Press.
- Labu, Z. K., Karim, S., Afroz, M., Batul, U. K., Akhter, L., Rahman, M. T. & Arifuzzaman. (2026). GC-MS based bioactive profiling of *Phyllanthus niruri* and its antibacterial potential through experimental and computational studies. *PLoS One* 21(1): 1–48.
- Lee, J., Kim, M., Son, H., Kim, S., Jo, S., Janchiv, A., Kim, S. Y., Lee, T. & Yoo, H. Y. (2024). Phytochemical characterization and bioactivity evaluation of extracts obtained via ultrasound-assisted extraction of medicinal plant *Phedimus aizoon*. *Plants*, 13(1915): 1–11.
- Lee, S. K., Mei, L. & Decker, E. A. (1997). Influence of sodium chloride on antioxidant enzyme activity and lipid oxidation in frozen ground pork. *Meat Science*, 46(4): 349–355.
- Lin, J., Zhou, D., Steitz, T. A., Polikanov, Y. S. & Gagnon, M. G. (2018). Ribosome-targeting antibiotics: modes of action, mechanisms of resistance, and implications for drug design. *Annual Review of Biochemistry*, 87: 451–478.
- Liur, I. J. & Tagueha, A. D. (2020). Kualitas kimia dan mikroorganisme daging ayam broiler pada pasar moderen di kota Ambon. *Jurnal Sains dan Teknologi Pangan (JSTP)*, 5(6): 3506–3411.
- Lokapirnasari, W. P., Widodo, O. S. & Koestanti, E. (2018). Potensi bakteri *Lactococcus* sp. dan *Lactobacillus* sp. untuk peningkatan kualitas limbah kulit kacang sebagai alternatif bahan pakan. *Jurnal Ilmiah Perikanan dan Kelautan*, 10(1): 54–58.
- Mahon, C. R., Lehman, D. C. & Manuselis, G. (2015). *Textbook of Diagnostic Microbiology 5th Edition*. Missouri: Saunders Elsevier, page 421–451.
- Maysaroh, A. N., Witasari, L. D. & Darmasiwi, S. (2025). Identification, antimicrobial activity, and mycochemicals of *Lentinus* spp. cultivated in papaya peel medium. *Journal of Applied Biology & Biotechnology*, 13(2): 104–112.
- Menegus, F., Cattaruzza, L., Chersi, A. & Fronza, G. (1989). Differences in the anaerobic lactate-succinate production and in the changes of cell sap pH for plants with high and low resistance to anoxia. *Plant Physiol*, 90: 29–32.
- Meziani, A., Verloy, S., Ferroukhi, O. & Roca, S. (2022). Evaluation of gas chromatography columns with radially elongated pillars as second-dimension columns in comprehensive two-dimensional gas chromatography. *Analytical*.
- Mufidah, N., Sunarsih, E. S. & Dini, I. R. E. (2023). Uji aktivitas penyembuhan luka ekstrak etanol herba meniran (*Phyllanthus niruri* L.) pada kelinci jantan (*Oryctolagus cuniculus*). *Generics : Journal of Research in Pharmacy*, 3(1): 65-73.

- Muldianah, D., Utami, M. R. & Malau, J. (2023). Potensi antibakteri ekstrak daun gendola (*Basella alba* Linn var. *rubra*) terhadap *Escherichia coli* dan *Staphylococcus aureus*. *JOURNAL OF PHARMACEUTICAL AND SCIENCES*, 6(4): 1831–1841.
- Mulu, B. M., Belete, M. A., Demlie, T. B., Tassew, H. & Tessema, T. S. (2024). Characteristics of pathogenic *Escherichia coli* associated with diarrhea in children under five years in Northwestern Ethiopia. *Trop Med. Infect. Dis.* 2024, 9 (65): 1–15.
- Munoz, A. L., Senate, F. R. Oria, A. B., Prior, A. F., Bolanos, J. F. & Gutierrez, G. R. (2019). Synergistic effect of 3,4-dihydroxyphenylglycol with hydroxytyrosol and α -tocopherol on the rancimat oxidative stability of vegetable oils. *Innovative Food Science and Emerging Technologies*, 51: 100–106.
- Mussa, N. J., Thongkam, P., Wongnen, C., Panpipat, W., Kitipipit, W., Cheong, L. Z. & Chaijan, M. (2025). Exploring the potential of mon-pu (*Glochidion wallichianum*) leaf extract as a natural antioxidant for Ligor chicken meat gel: impact on gelation functionality and oxidative stability. *Poultry Science*, 104, 1–11.
- Nauval, L. A. O., Wijayatri, R. & Oktaviyani, T. (2026). Identifikasi senyawa aktif dalam daun dadap serep (*Erythrina subumbrans* (Hassk.) Merr) dan potensinya sebagai antioksidan. *Journal of Pharmaceutical and Sciences*, 9(1): 60–67.
- Ojeaburu, S. I. & Olasehinde, O. (2025). Phytochemical and nutritional evaluation of *Phyllanthus niruri* leaves: implications for ethnomedicinal use. *Journal of Science Research and Reviews*, 2(5): 57–64.
- Olmo, D. A., Calzada, J. & Nuñez, M. (2017). Benzoic acid and its derivatives as naturally occurring compounds in foods and as additives: Uses, exposure, and controversy. *Critical reviews in food science and nutrition*, 57(14): 3084–3103.
- Om, S. & Amol, K. (2018). Effect of ph on the efficacy of the sodium benzoate as antimicrobial preservative in tropical formulation. *Inventi Impact: Pharm Tech*, 18(2): 64–67.
- Pardede, A. & Wardhani, R. R. A. A. K. (2025). Analisis senyawa metabolit sekunder dari batang, daun dan akar tumbuhan kelakai (*Stenochlaena palustris*). *Jurnal Pendidikan Kimia dan Ilmu Kimia*, 8(3): 200–208.
- Parvin, M. S., Talukder, S., Ali, M. Y., Chowdhury, E. H., Rahman, M. T. & Islam, M. T. (2020). Antimicrobial resistance pattern of *Escherichia coli* isolated from frozen chicken meat in Bangladesh. *Pathogens*, 9(6): 420.
- Patil, A. & Rathod, V. J. (2014). Gc-ms analysis of bioactive components from methanol leaf extract of *Toddalia asiatica* (L.). *International Journal of Pharmaceutical Sciences Review and Research*, 29(1): 18–20.
- Prawira, I. P. A., Suardana, I. B. K., Kardenia, I. M., Setiasih, N. L. E., Nindhia, T. S. & Kendran, A. A. S. (2025). Pengaruh ekstrak daun meniran hijau dengan dosis berbeda terhadap respons titer antibodi newcastle disease pada broiler. *Buletin Veteriner Udayana*, 17(2): 475–484.
- Rani, A. S. S., Babu, S. Anbukumaran, A., Veeramani, S., Ambikapathy, Gomathi, S. & Senthilkumar, G. (2021). Prospective approaches of

- Pseudonocardia alaniniphila* hydrobionts for *Litopenaeus vannamei*. *Advances in Probiotics*, 327–348.
- Rasyid, A., Putra, M. Y. & Yasman. (2023). Antibacterial and antioxidant activity of sea cucumber extracts collected from Lampung waters, Indonesia. *Kuwait Journal of Science*, 50: 615–621.
- Reitznerová, A., Šuleková, M., Nagy, J., Marcinčák, S., Semjon, B., Čertík, M. & Klempová, T. (2017). Lipid peroxidation process in meat and meat products: a comparison study of malondialdehyde determination between modified 2-thiobarbituric acid spectrophotometric method and reverse-phase high-performance liquid chromatography. *Molecules*, 22(11): 1988.
- Romha, G., Admasu, B., Gebrekidan, H. T., Aleme, H. & Gebru, G. (2018). Antibacterial activities of five medicinal plants in Ethiopia against some human and animal pathogens. *Evidence-Based Complement Alternative Medicine*, 1–10.
- Rusmana, D., Wahyudianingsih, R., Elisabeth, M., Balqis, Maesaroh, & Widowati, W. (2017). Antioxidant activity of *Phyllanthus niruri* extract, rutin and quercetin. *The Indonesian Biomedical Journal*, 9(2): 84–90.
- Saerang, M. F., Edy, H. J. & Siampa, J. P. (2023). Formulasi sediaan krim dengan ekstrak etanol daun gedi hijau (*Abelmoschus manihot* L.) terhadap *Propionibacterium acnes*. *PHARMACON*, 12(3): 350–357.
- Sallam, A. A., Yonis, A. E. & Garamoun, S. (2017). Some studies on immunoglobulin A, complement 3 and nitric oxide on the level of *Escherichia coli* enteritis in broiler with pathological changes In Bohera Province. *Animal Health Research Journal*, 5(4): 184–195.
- Santos, N. C., Figueira-Coelho, J., Martins-Silva, J. & Saldanha, C. (2003). Multidisciplinary utilization of dimethyl sulfoxide: pharmacological, cellular, and molecular aspects. *Biochemical pharmacology*, 65(7): 1035–1041.
- Sari, S. M., Suliati. & Endarini, L. H. (2025). Deteksi cemaran bakteri *Staphylococcus aureus*, *Salmonella* sp., dan *Escherichia coli* pada daging ayam broiler. *Jurnal Penelitian Kesehatan Suara Forikes*, 16(2): 347–350.
- Sarmadi., Nizar, M. & Sari, W. P. (2021). Efek penambahan vitamin c terhadap aktivitas kloramfenikol dalam menghambat pertumbuhan *Salmonella typhi* secara in vitro. *Jurnal Kesehatan Farmasi (JKPharm)*, 3(2): 82–88.
- Sreedevi, B., Kumar, C. R. & Sashikiran, P. (2023). Phytochemical and pharmacological properties of *Phyllanthus niruri* L: a comprehensive review. *Biological Forum – An International Journal*, 15(6): 1095–1100.
- Standar Nasional Indonesia (SNI) 2897:2008. *Metode Pengujian Cemaran Mikroba dalam Daging, Telur dan Susu, serta Hasil Olahannya*.
- Sunitha, J., Krishna, S., Ananthalakshmi, R., Jeeva, J. S., Girija, A. S. & Jeddy, N. (2017). Antimicrobial effect of leaves of *Phyllanthus niruri* and *Solanum nigrum* on caries causing bacteria: an in vitro study. *Journal of clinical and diagnostic research: JCDR*, 11(6): KC01–KC04.
- Syafitri, A., Marbun, V. E. & Laia, S. (2024). Formulasi sediaan pomade ekstrak daun meniran (*Phyllanthus niruri* L.) sebagai perangsang penumbuh rambut pada kelinci. *Jurnal Farmasi dan Herbal*, 6(2): 23–32.

- Teshome, E., Forsido, S. F., Rupasinghe, H. P. V. & Keyata, E. O. (2022). Potentials of natural preservatives to enhance food safety and shelf life: a review. *The Scientific World Journal*, 22(1): 1–11.
- Ting, W. T. & Banwart, G. J. (1985). Enumeration of enterococci and aerobic mesophilic plate count in dried soup using three reconstitution methods. *Journal of Food Protection*, 48(9): 770–772.
- Tiwana, G., Cock, I. E. & Cheesman, M. J. (2024). *Phyllanthus niruri* Linn.: antibacterial activity, phytochemistry, and enhanced antibiotic combinatorial strategies. *Antibiotics*, 13(7): 1–16.
- Aini, A., Ustiaty, J., Kurniawan, E. & Maulana, A. (2022). Isolate and characterization of lactic acid bacteria (lab) in local nira as probiotic starter candidates. *Jurnal Biologi Tropis*, 22(4): 1195–1203.
- U.S. Environmental Protection Agency. (2009). *Biopesticides Registration Action Document: L-Lactic acid*.
- Utomo, S. B., Fujiyanti, M., Lestari, W. P. & Mulyani, S. (2018). Uji aktivitas antibakteri senyawa c-4 metoksifenilkaliks [4] resorsinarena termodifikasi hexadecyltrimethylammonium-bromide terhadap bakteri *Staphylococcus aureus* dan *Escherichia coli*. *Jurnal Kimia dan Pendidikan Kimia*, 3(3): 109–209.
- Valgas C., De Souza S. M. & Smânia E. F. A. (2007). Screening methods to determine antibacterial activity of natural products. *Braz. J. Microbiol*, 38: 369–380
- Wahyulianingsih, W., Handayani, S. & Malik, A. (2016). Penetapan kadar flavonoid total ekstrak daun cengkeh (*Syzygium aromaticum* (L.) Merr & Perry). *Jurnal Fitofarmaka Indonesia*, 3(2), 188–193.
- Wang, D., Xiao, H., Lyu, X., Chen, H. & Wei, F. (2023). Lipid oxidation in food science and nutritional health: A comprehensive review. *Oil Crop Science*, 8: 35–44.
- Wibawati, P. A., Chrismonica, Y., Susanti, R. B., Himawan, M. P., Devy, A. H. S., Nirmalasari, J. A. & Abdramanov, A. (2024). Microbial contamination in chicken meat in traditional markets in Banyuwangi. *Jurnal Medik Veteriner*, 7(1): 41–47.
- Widyasmara, L. & Sariri, A. K. (2021). Teknologi marinasi daging ayam broiler dengan ekstrak buah nenas (*Ananas comosus* (L.) Merr) terhadap kualitas mikrobiologi. *Jurnal Ilmu Peternakan dan Veteriner Tropis*, 11(3): 211–216.
- Wijaksana, I. K. E., Siswanto, O. B., Pinatih, M. T. S., Larasati, D. M., Augustina, E. F. & Savitri, I. J. (2024). Evaluating the antibacterial potency of *Phyllanthus niruri* L. leaf extract against *Aggregatibacter actinomycetemcomitans* and *Porphyromonas gingivalis*. *Journal of International Dental and Medical Research*, 17(3): 1035–1040.
- Yamaguchi, T. (2024). Exploration and utilization of novel aldoxime, nitrile, and nitro compounds metabolizing enzymes from plants and arthropods. *Bioscience, Biotechnology, and Biochemistry*, 88(2): 138–146.
- Yan, Y., Xia, X., Fatima, A., Zhang, L., Yuan, G., Lian, F. & Wang, Y. (2024). Antibacterial activity and mechanisms of plant flavonoids against gram-negative bacteria based on the antibacterial statistical model. *Pharmaceuticals*, 17(292): 1–15.



- Yang, X., Hong, J., Wang, L., Cai, C., Mo, H., Wang, J., Fang, X. & Liao, Z. (2024). Effect of lactic acid bacteria fermentation on plant-based products. *Fermentation*, 10(1): 48.
- Yu, H. H., Chin, Y. W. & Paik, H. D. (2021). Application of natural preservatives for meat and meat products against food-borne pathogens and spoilage bacteria: a review. *Foods*, 10 (2418): 1-22.
- Zhu, L., Zou, F., Yan, Y., Wang, Q., Shi, Y. & Qu, W. (2016). The characteristics of *Staphylococcus aureus* Small colony variant isolated from chronic mastitis at dairy farm in Yunnan Province, China. *The Scientific World Journal*, 2016: 1–8.
- Zhu, Y., Wang, W., Li, M., Zhang, J., Ji, L., Zhao, Z., Zhang, R., Cai, D. & Chen, L. (2022). Microbial diversity of meat products under spoilage and its controlling approaches. *Frontiers in Nutrition*, 9: 1–8.