

DAFTAR PUSTAKA

- Abdi, H., & Williams, L. J. (2010). Principal component analysis. *Wiley Interdisciplinary Reviews: Computational Statistics*, 2(4), 433–459. <https://doi.org/10.1002/WICS.101>;
- Abidin, Z., Hidayat, N., Mudi, L., Rusmini, Mentari, S. D., Arifiana, N. B., & Krismiratsih, F. (2025). *Efektivitas Bakteri Asam Laktat Terhadap Percepatan Dekomposisi Bahan Organik Mucuna Dalam Proses Effectiveness Of Lactic Acid Bacteria On Acceleration Of Median Volume 17 Nomor 2 Bulan Juni 2025*. 17, 50–60.
- Abraha, B., Admassu, H., Mahmud, A., Tsighe, N., Shui, X. W., & Fang, Y. (2018). Effect of processing methods on nutritional and physico-chemical composition of fish: a review. *MOJ Food Processing & Technology*, Volume 6(Issue 4). <https://doi.org/10.15406/MOJFPT.2018.06.00191>
- Abuhlega, T. A., & Ali, M. R. (2022). Biogenic amines in fish: Prevention and reduction. *Journal of Food Processing and Preservation*, 46(10), e16883.
- Adawiyah, D. R., Hunaefi, D., & Nurtama, B. (2024). *Evaluasi Sensori Produk Pangan*. PT Bumi Aksara.
- Adawiyah, D. R., Tjiptoputri, O. M., & Lince, L. (2020). Profil Sensori Sediaan Pemanis dengan Metode Rate-All-That-Apply (RATA). *Jurnal Mutu Pangan : Indonesian Journal of Food Quality*, 7(1), 38–45. <https://doi.org/10.29244/jmpi.2020.7.1.38>
- Adawyah. (2011). *Pengolahan dan Pngawetan Ikan*. Bumi Aksara.
- Adawyah, I. (2023). *Pengolahan dan Pengawetan Ikan*. Bumi Aksara.
- Adirama, S. I. (2024). *Peningkatan Kualitas Terasi Udang Rebon (Acetes Sp.) Terinokulasi Tetragenococcus halophilus Serta Analisis Aktivitas Peptida Bioaktif Yang Dihasilkan*.
- Amatullah, L. H., Afifah, D. N., & Jannah, S. N. (2023). Isolation and molecular identification of proteolytic bacteria from rusip an Indonesian fermented food. *Biosaintifika: Journal of Biology Dan Biology Education*, 15, 450–459. <https://doi.org/https://doi.org/10.15294/biosaintifika.v15i3.42237>
- Amelia, V., Nurhamzah, L. Y., Lioe, H. N., Sitanggang, A. B., Adawiyah, D. R., & Kusumaningrum, H. D. (2024). Characterization and peptide identification of umami fractions from rusip a traditional fermented anchovy product. *Journal of Food Science*, 89(12), 8326–8341. /doi/pdf/10.1111/1750-3841.17532
- Amir, Z. M., Yulianti, N., & Laily, D. W. (2023). Analysis of added value in the processing of anchovies into sambal fried anchovies. *Jurnal Pertanian Agros*, 25(3), 2849–2857.
- An, Y., Cai, X., Cong, L., Hu, Y., Liu, R., Xiong, S., & Hu, X. (2022). Quality Improvement of Zhayu, a Fermented Fish Product in China: Effects of Inoculated Fermentation with Three Kinds of Lactic Acid Bacteria. *Foods* 2022, Vol. 11, Page 2756, 11(18), 2756.

- An, Y., Cai, X., Cong, L., Hu, Y., Liu, R., Xiong, S., Hu, X., An, Y., Cai, X., Cong, L., Hu, Y., Liu, R., Xiong, S., & Hu, X. (2022). Quality Improvement of Zhayu, a Fermented Fish Product in China: Effects of Inoculated Fermentation with Three Kinds of Lactic Acid Bacteria. *Foods* 2022, Vol. 11, 11(18). <https://doi.org/10.3390/FOODS11182756>
- Andarwulan, N., Kusnandar, F., & Herawati, D. (2011). *Analisi Pangan*. Dian Rakyat.
- Andhikawati, A., Permana, R., Oktavia, Y., Perikanan, D., Perikanan dan Ilmu Kelautan, F., Studi Perikanan Pangandaran, P. K., Unpad Pangandaran, P., Pangandaran, K., Studi Teknologi Hasil Perikanan, P., & Ilmu Kelautan dan Perikanan, F. (2021). Review: Komposisi Gizi Ikan Terhadap Kesehatan Tubuh Manusia. *Marinade*, 4(02), 76–84.
- Angraeni, P. D., Marhamah, & Djayasinga, R. (2021). Pengaruh Pemanasan Berulang Terhadap Kualitas Media Plate Count Agar (Pca) Di Laboratorium Bakteriologi Jurusan Analis Kesehatan. *Jurnal Medika Malahayati*, 6(4), 220–226.
- Anumudu, C. K., Miri, T., & Onyeaka, H. (2024). Multifunctional Applications of Lactic Acid Bacteria: Enhancing Safety, Quality, and Nutritional Value in Foods and Fermented Beverages. *Foods*, 13(23). <https://doi.org/10.3390/foods13233714>
- AOAC. (2005). *Official Methods of Analysis of the Association of Official Analytical Chemists*. Published by the Association of Official Analytical Chemist.
- Apriyanto, M., Fangohoi, L., Aprilia, V., Diba, D. F., Prayitno, S. H., Nurhayati, N., & Sari, D. A. (2021). Pangan Berbasis Fermentasi. In A. A. Kiti (Ed.), *Nutamedia*. Nutamedia.
- Ares, G., Bruzzone, F., Vidal, L., Cadena, R. S., Giménez, A., Pineau, B., Hunter, D. C., Paisley, A. G., & Jaeger, S. R. (2014). Evaluation of a rating-based variant of check-all-that-apply questions: Rate-all-that-apply (RATA). *Food Quality and Preference*, 36, 87–95. <https://doi.org/10.1016/J.FOODQUAL.2014.03.006>
- Ares, G., & Jaeger, S. R. (2015). Check-all-that-apply (CATA) questions with consumers in practice: experimental considerations and impact on outcome. *Rapid Sensory Profiling Techniques and Related Methods: Applications in New Product Development and Consumer Research*, 227–245. <https://doi.org/10.1533/9781782422587.2.227>
- Arfianty, B. N., Farisi, S., & Ekowati, C. N. (2017). Dinamika Populasi Bakteri Dan Total Asam Pada Fermentasi Bekasam Ikan Patin (*Pangasius hypophthalmus*). *Jurnal Ilmiah Biologi Eksperimen Dan Keanekaragaman Hayati (J-BEKH)*, 4(2), 43–49. <https://doi.org/10.23960/jbekh.v4i2.133>
- Arianda, D. (2016). *Buku Saku Bakteriologi*. AM-Publishing.
- Aryati, E., Wulan, A., & Dharmayanti, S. (2014). Manfaat Ikan Teri Segar (*Stolephorus* sp) Terhadap Pertumbuhan Tulang Dan Gigi. *Odonto : Dental Journal*, 1(2), 52–56. <https://doi.org/10.30659/ODJ.1.2.52-56>

- Astawan, M. (2008). *Sehat dengan Hidangan Hewani*. Penebar Swadaya.
- Ayustaningwarno, F. (2014). *Aplikasi Pengolahan Pangan*. Deepublis.
- BacDive. (2024). *Ureibacillus xyleni strain information*. Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures GmbH. <https://bacdive.dsmz.de/strain/155508>
- Bano Et, R. I. M., Sudana, I. M., & Wirya, G. N. A. S. (2016). Manfaat Beberapa Jenis Mikroba Yang Diisolasi Dari Kayu Laru (*Peltophorum Pterocarpum*.) Dan Mur Sebagai Starter Dalam Pembuatan Laru Dan Sopi Di Pulau Timor. *Journal of Agricultural Science and Biotechnology*, 5(1).
- Batubara, P. A. P., Desniar, D., & Setyaningsih, I. (2019). Pengaruh Starter Bakteri Asam Laktat Probiotik Terhadap Perubahan Kimiawi Dan Mikrobiologis Rusip. *Jurnal Teknologi Dan Industri Pangan*, 30(1), 28–35. <https://doi.org/10.6066/JTIP.2019.30.1.28>
- Belleggia, L., & Osimani, A. (2023). Fermented fish and fermented fish-based products, an ever-growing source of microbial diversity: A literature review. *Food Research International*, 172, 113112. <https://doi.org/10.1016/J.FOODRES.2023.113112>
- BPS, B. P. S. (2024). *Rata-rata Konsumsi Perkapita Seminggu Menurut Kelompok Ikan Per Kabupaten/kota*. <https://www.bps.go.id/assets/statistics-table/2/MjA5NiMy/rata-rata-konsumsi-perkapita-seminggu-menurut-kelompok-ikan-per-kabupaten-kota.html>
- Bro, R., & Smilde, A. K. (2014). Principal component analysis. *Analytical Methods*, 6(9), 2812–2831. <https://doi.org/10.1039/C3AY41907J>
- BSN. (2015). *Penentuan Angka Lempeng Total (ALT) Pada Produk Perikanan. SNI 01-2332.3-2015*. Standar Nasional Indonesia.
- Cai, H., Tao, L., Zhou, X., Liu, Y., Sun, D., Ma, Q., Yu, Z., & Jiang, W. (2024). Lactic acid bacteria in fermented fish: Enhancing flavor and ensuring safety. *Journal of Agriculture and Food Research*, 16, 101206. <https://doi.org/10.1016/j.jafr.2024.101206>
- Cha, Y. J., & Yu, D. (2024). Health benefits and functions of salt-fermented fish. *Journal of Ethnic Foods* 2024 11:1, 11(1), 34-. <https://doi.org/10.1186/S42779-024-00251-5>
- Chan, S. X. Y., Fitri, N., Mio Asni, N. S., Sayuti, N. H., Azlan, U. K., Qadi, W. S. M., Dawoud, E. A. D., Kamal, N., Sarian, M. N., Mohd Lazaldin, M. A., Low, C. F., Harun, S., Hamezah, H. S., Rohani, E. R., & Mediani, A. (2023). A Comprehensive Review with Future Insights on the Processing and Safety of Fermented Fish and the Associated Changes. *Foods*, 12(3), 558. <https://doi.org/10.3390/foods12030558>
- Chaterina, L., Maherawati, & Simamora, C. J. K. (2025). Karakteristik Kimia Pekasam Ikan Nila Dengan Penambahan Kultur Tunggal Isolat Bakteri Asam Laktat. *Jurnal Sains Pertanian Equator*, 14(3), 676–683. <https://doi.org/10.26418/JSPE.V14I3.90831>

- Chun, B. H., Han, D. M., Kim, K. H., Jeong, S. E., Park, D., & Jeon, C. O. (2019). Genomic and metabolic features of *Tetragenococcus halophilus* as revealed by pan-genome and transcriptome analyses. *Food Microbiology*, 83, 36–47. <https://doi.org/10.1016/J.FM.2019.04.009>
- Contesini, F. J., Melo, R. R. de, & Sato, H. H. (2018). An overview of *Bacillus* proteases: from production to application. *Critical Reviews in Biotechnology*, 38(3), 321–334. <https://doi.org/10.1080/07388551.2017.1354354>
- Damayanti, W., & Liviawaty, E. (2021). Development of Microbial Population During the Fermentation Environmental Control of Meckerel (*Rastrelliger* sp.). *Jurnal Akuatek*, 2(1), 19–24.
- Dasir, & Suyatno. (2019). Teknologi Pengolahan dan Pengawetan Ikan. In *Journal of Chemical Information and Modeling* (Vol. 53, Issue 9).
- Desniar, Setyaningsih, I., & Sumardi, R. S. (2012). Perubahan Parameter Kimia Dan Mikrobiologi Serta Isolasi Bakteri Penghasil Asam Selama Fermentasi Bekasam Ikan Mas (*Cyprinus carpio*). *Jurnal Pengolahan Hasil Perikanan Indonesia*, 15(3), 232–239. <https://doi.org/10.17844/JPHPI.V15I3.21435>
- El Hosry, L., Elias, V., Chamoun, V., Halawi, M., Cayot, P., Nehme, A., & Bou-Maroun, E. (2025). Maillard Reaction: Mechanism, Influencing Parameters, Advantages, Disadvantages, and Food Industrial Applications: A Review. *Foods* (Basel, Switzerland), 14(11). <https://doi.org/10.3390/FOODS14111881>
- Elistia, E., Sumardianto, S., & Romadhon, R. (2023). Effect Of Different Concentrations Of Liquid Palm Sugar On The Quality Characteristics And Glutamic Acid Containment Of Squid Rusip (*Loligo chinensis*). *Jurnal Pangan Dan Agroindustri*, 11(4), 186–195.
- Engevik, K. A., Hazzard, A., Puckett, B., Hoch, K. M., Haidacher, S. J., Haag, A. M., Spinler, J. K., Versalovic, J., Engevik, M. A., Horvath, T. D., Engevik, K. A., Hazzard, A., Puckett, B., Hoch, K. M., Haidacher, S. J., Haag, A. M., Spinler, J. K., Versalovic, J., Engevik, M. A., & Horvath, T. D. (2024). Phylogenetically Diverse Bacterial Species Produce Histamine. *Systematic and Applied Microbiology*, 47(5), 126539. <https://doi.org/10.1016/j.syapm.2024.126539>
- Erdiandini, I., Sunarti, T. C., & Meryandini, A. (2015). Seleksi Bakteri Asam Laktat dan Pemanfaatannya Sebagai Starter Kering Menggunakan Matriks Tapioka Asam. *Jurnal Sumberdaya Hayati*, 1(1), 26–33. <https://doi.org/10.29244/JSDH.1.1.26-33>
- Fathurrozi, S. A., & Winarti, S. (2024). Pengaruh Konsentrasi Garam Dan Lama Fermentasi. *Jurnal Teknologi Pangan*, 18(1), 15–28.
- Feng, L., Tang, N., Liu, R., Gong, M., Wang, Z., Guo, Y., Wang, Y., Zhang, Y., & Chang, M. (2021). The relationship between flavor formation, lipid metabolism, and microorganisms in fermented fish products. *Food & Function*, 12(13), 5685–5702. <https://doi.org/10.1039/D1FO00692D>
- Flores, M., & Toldrá, F. (2011). Microbial enzymatic activities for improved

- fermented meats. *Trends in Food Science & Technology*, 22(2–3), 81–90. <https://doi.org/10.1016/J.TIFS.2010.09.007>
- Ga, O. (2017). *Pengaruh Media Fermentasi Dan Konsentrasi Garam terhadap Kualitas Bekasam Ikan Gabus (Channa striata)*.
- Gao, X., Li, C., He, R., Zhang, Y., Wang, B., Zhang, Z. H., & Ho, C. T. (2023). Research Advances On Biogenic Amines In Traditional Fermented Foods: Emphasis on formation mechanism, detection and control methods. *Food Chemistry*, 405, 134911.
- Guindo, C. O., Morsli, M., Bellali, S., Drancourt, M., & Grine, G. (2022). A *Tetragenococcus halophilus* human gut isolate. *Current Research in Microbial Sciences*, 3, 100112. <https://doi.org/10.1016/J.CRMICR.2022.100112>
- Gupta, R. S., & Patel, S. (2020). Robust Demarcation of the Family Caryophanaceae (Planococcaceae) and Its Different Genera Including Three Novel Genera Based on Phylogenomics and Highly Specific Molecular Signatures. *Frontiers in Microbiology*, 10, 501036.
- Hamidah, M. N., Rianingsih, L., & Romadhon, R. (2019). Aktivitas Antibakteri Isolat Bakteri Asam Laktat Dari Peda Dengan Jenis Ikan Berbeda Terhadap *E. Coli* Dan *S. aureus*. *Jurnal Ilmu Dan Teknologi Perikanan*, 1(2), 11–21. <https://doi.org/10.14710/JITPI.2019.6742>
- Han, J., Kong, T., Wang, Q., Jiang, J., Zhou, Q., Li, P., Zhu, B., & Gu, Q. (2023). Regulation of microbial metabolism on the formation of characteristic flavor and quality formation in the traditional fish sauce during fermentation: a review. *Critical Reviews in Food Science and Nutrition*, 63(25), 7564–7583. <https://doi.org/10.1080/10408398.2022.2047884>
- Hara, F. K., & Maiyasa, F. (2024). Evaluasi Mutu Rusip Ikan Teri Nasi (*Stolephorus* Sp.) Dengan Lama Fermentasi Yang Berbeda. *Marinade*, 7(01), 78–88. <https://doi.org/10.31629/MARINADE.V7I01.6932>
- Hariwan, P., Kholil, M., & Gadissa, A. A. N. (2015). Analisa Pengambilan Keputusan Pada Penentuan Cairan Antiseptik Tangan Yang Terbaik Dengan Metode Analytical Hierarchy Process (AHP). *IX*(2), 203–219.
- Hartiningtyas, N. D., Wijanarka, A., & Sari, S. P. (2020). Konsentrasi Larutan garam pada fermentasi kulit buah cempedak (*Artocarpus integer*) terhadap sifat fisik, organoleptik dan kadar vitamin C mandai. *Jurnal GIZODO*, 12(2), 55–64.
- Hatim, F., Jabid, A. W., & Buamonabot, I. (2020). Pendampingan Pengembangan Produk Gula Aren Sebagai Upaya Peningkatan Pendapatan Bagi Masyarakat Kecamatan Bacan Selatan Kabupaten Halmahera Selatan. *Prosiding Seminar Nasional Universitas Islam Syekh Yusuf*, 1(1), 220–228. <https://doi.org/10.24259/PERENNIAL.V3I2.169>
- Huang, Y., Wang, Y., Shang, N., & Li, P. (2023). Microbial Fermentation Processes of Lactic Acid: Challenges, Solutions, and Future Prospects. *Foods* 2023, Vol. 12, Page 2311, 12(12), 2311. <https://doi.org/10.3390/FOODS12122311>
- Hutkins, R. W. (2018). *Microbiology and Technology of Fermented Foods*. 2nd

Edition. Wiley-Blackwell.

- Ihsani, N., Hernahadini, N., Nurissalma, Z. S., Huda, A. N., Sartika, T., Afifah, A. N. N., & Syamsiyah, N. R. N. (2023). The effect of incubation period on ethanol content of jasmine and green tea kombucha. *Jurnal Bioteknologi & Biosains Indonesia*, 10(2), 361–367. <http://ejournal.brin.go.id/JBBI/index>
- Jayus, J., Rosyidawati, E. H., & Purnomo, B. H. (2019). Akselerasi Produksi Moromi Menggunakan Inokulum *Pediococcus Halophilus* FNCC 0033 DAN *Zygosaccharomyces Rouxii* FNCC 3008. *JURNAL AGROTEKNOLOGI*, 13(02), 148–155. <https://doi.org/10.19184/J-AGT.V13I02.9061>
- Johnson, R. A., & Wichern, D. W. (2014). *Applied Multivariate statistical analysis* *Statistikal Analysis Sixth Edition*. Pearson Prentice Hall.
- Jolliffe, I. T., & Cadima, J. (2016). Principal component analysis: a review and recent developments. *Philosophical Transactions. Series A, Mathematical, Physical, and Engineering Sciences*, 374(2065), 20150202. <https://doi.org/10.1098/RSTA.2015.0202>
- Jones, B. C., Rocker, M. M., Keast, R. S. J., Callahan, D. L., Redmond, H. J., Smullen, R. P., & Francis, D. S. (2022). Systematic review of the odorous volatile compounds that contribute to flavour profiles of aquatic animals. *Reviews in Aquaculture*, 14(3), 1418–1477. <https://doi.org/10.1111/RAQ.12657>
- Jung, S., Hwang, I. M., & Lee, J. H. (2024). Temperature impact on microbial and metabolic profiles in kimchi fermentation. *Heliyon*, 10(5), e27174. <https://doi.org/10.1016/j.heliyon.2024.e27174>
- Khairi, I. M., Khairi, I. N. B. M., Huda, N., Abdullah, W. N. W., & Al-Kharki, A. F. M. (2014). Protein Quality of Fish Fermented Product: Budu and Rusip. *Asia Pacific Journal of Sustainable Agriculture, Food and Energy*, 2(2), 17–22. <https://doi.org/10.36782/apjsafe.v2i2.784>
- Khongthaw, B., Dladla, M., Chauhan, P. K., Dulta, K., Kumar, V., Oneyaka, H., & Ghosh, S. (2026). Fermented Fish Products: A Comprehensive Overview of Traditional Processing Techniques, Varieties, and Their Health Benefits. *Comprehensive Reviews in Food Science and Food Safety*, 25(3),
- Kim, D. H., Kim, S. A., Jo, Y. M., Seo, H., Kim, G. Y., Cheon, S. W., Yang, S. H., Jeon, C. O., & Han, N. S. (2022). Probiotic potential of *Tetragenococcus halophilus* EFEL7002 isolated from Korean soy Meju. *BMC Microbiology*, 22(1), 149. <https://doi.org/10.1186/S12866-022-02561-7>
- Kleekayai, T., Pinitklang, S., Laohakunjit, N., & Suntornsuk, W. (2016). Volatile components and sensory characteristics of Thai traditional fermented shrimp pastes during fermentation periods. *Journal of Food Science and Technology*, 53(3), 1399. <https://doi.org/10.1007/S13197-015-2142-3>
- Koesoemawardani, D., Hermawan, Y. E., Herdiana, N., & Susilawati, S. (2020). Karakteristik Rusip Ikan Rucuh Dengan Penambahan Konsentrasi Gula Aren Cair Dan Garam Berbeda. *Jurnal Teknologi & Industri Hasil Pertanian*, 25(2), 120–128. <https://doi.org/10.23960/JTIHP.V25I2.120-128>

- Koesoemawardani, D., & Ali, M. (2016). RUSIP DENGAN PENAMBAHAN ALGINAT SEBAGAI BUMBU. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 19(3), 277. <https://doi.org/10.17844/jphpi.v19i3.14549>
- Koesoemawardani, D., & Rizal, S. (2015). *Perubahan Sifat Mikrobiologi dan Kimia Rusip dengan Perbedaan Waktu Penambahan Gula Aren Cair*. <https://tip.trunojoyo.ac.id/semnas>
- Koesoemawardani, D., Rizal, S., & Sella, N. (2016). Penambahan Konsentrasi Gula Aren Pada Joruk. *Prosiding Seminar Nasional Pengembangan Teknologi Pangan, September*, 185–195.
- Koesoemawardani, D., Rizal, S., & Tauhid, M. (2013). Perubahan Sifat Mikrobiologi dan Kimiawi Rusip Selama Fermentasi. *Agritech*, 33(3), 265–272.
- Koesoemawardani, D., & Yuliana, N. (2013). KARAKTER RUSIP DENGAN PENAMBAHAN KULTUR KERING: *Streptococcus* sp. *Jurnal Sains Dan Teknologi Indonesia*, 11, 205–211.
- Kortei, N. K., Odamtten, G. T., Obodai, M., Appiah, V., Akonor, P. T., & Ae, B. (2015). *Determination of color parameters of gamma irradiated fresh and dried mushrooms during storage*. 10, 66–71.
- Krisnaningsih, A. T., Radiati, L. E., Purwadi, Evanuarini, H., & Rosyidi, D. (2019). The effect of incubation time to the physicochemical and microbial properties of yoghurt with local taro (*Colocasia esculenta*(L.) schott) starch as stabilizer. *Current Research in Nutrition and Food Science*, 7(2), 547–554. <https://doi.org/10.12944/CRNFSJ.7.2.23>
- Kumar, V., Bahuguna, A., Lee, J. S., Sood, A., Han, S. S., Chun, H. S., & Kim, M. (2023). Degradation mechanism of aflatoxin B1 and aflatoxin G1 by salt tolerant *Bacillus albus* YUN5 isolated from 'doenjang', a traditional Korean food. *Food Research International*, 165, 112479. <https://doi.org/10.1016/J.FOODRES.2023.112479>
- Kumazawa, T., Nishimura, A., Asai, N., & Adachi, T. (2018). Isolation of immune-regulatory *Tetragenococcus halophilus* from miso. *PLOS ONE*, 13(12), e0208821. <https://doi.org/10.1371/JOURNAL.PONE.0208821>
- Kurnianto, M. A., Adirama, S. I., Xu, W., Winarti, S., & Rini, D. M. (2025). Enhancing the Quality of Traditional Indonesian Shrimp Paste (Terasi) Through *Tetragenococcus halophilus* 54M106-3 Inoculation: Physicochemical, Sensory, and Bioactivity Insights. *Foods*, 14(14). <https://doi.org/10.3390/FOODS14142419/S1>
- Kurnianto, M. A., Christabela, T. D. A., Septiana, S., Munarko, H., Chasanah, E., & Rini, D. M. (2026). Rusip, a traditional Indonesian fermented anchovy fish: Microbial changes, biochemical transformation, and functional prediction during the fermentation. *Applied Food Research*, 6(1), 101693. <https://doi.org/10.1016/J.AFRES.2026.101693>
- Kurnianto, M. A., Defri, I., Syahbanu, F., & Aulia, S. S. (2024). Fish-derived bioactive peptide: Bioactivity potency, structural characteristics, and

- conventional and bioinformatics approaches for identification. *Future Foods*, 9, 100386. <https://doi.org/10.1016/J.FUFO.2024.100386>
- Kurnianto, M. A., & Munarko, H. (2022). Pengaruh Penambahan Kultur Starter Dan Metabolit *Lactobacillus Casei* Terhadap Mutu Mikrobiologi Sosis Fermentasi Ikan Patin (*Pangasius sp.*). *Jurnal Kelautan Dan Perikanan Terapan (JKPT)*, 5(1), 27–37. <https://doi.org/10.15578/jkpt.v5i1.10970>
- Kurnianto, M. A., Winarti, S., & Puspita, A. A. (2024). Profil Fisikokimia, Mikrobiologi dan Organoleptik Rusip Ikan Teri (*Stolephorus sp.*) dengan Lama Fermentasi Berbeda. *Jurnal Pascapanen Dan Bioteknologi Kelautan Dan Perikanan*, 19(1), 51. <https://doi.org/10.15578/jpbkp.v19i1.1011>
- Kurniawan, K., & Syila, S. (2021). Kandungan Bakteri (*Escherichia coli*) Protein Dan Total Asam Laktat Pada Pembuatan Fermentasi Rusip Ikan Teri (*Stolephorus sp.*). *Jambura Fish Processing Journal*, 3(2), 69–77. <https://doi.org/10.37905/JFPJ.V3I2.10563>
- Kurniawan, M. F., Indrastuti, N. A., & Kurnianingrum, A. (2024). Analisis Profil Sensori Teh Buah Aneka Rasa dengan Metode CATA (Check-All-That-Apply). *Agrointek: Jurnal Teknologi Industri Pertanian*, 18(2), 256–264. <https://doi.org/10.21107/agrointek.v18i2.17908>
- Kurniawan, & Susilowati, S. (2021). Kandungan Bakteri (*Escherichia coli*) Protein Dan Total Asam Laktat Pada Pembuatan Fermentasi Rusip Ikan Teri (*Stolephorus sp.*). *Jambura Fish Processing Journal*, 3(2), 69–77. <https://doi.org/10.37905/JFPJ.V3I2.10563>
- Kusmarwati, A., Arief, F. R., & Haryati, S. (2014). Exploration of Bacteriocin from Lactic Acid Bacteria Origin from Bangkanese and Kalimantanese Rusip. *JPB Perikanan*, 9(1), 29–40.
- Kusmarwati, A., Sri Heruwati, E., Utami, T., & Rahyu, E. S. (2011). Pengaruh Penambahan *Pediococcus Acidilactici* F-11 sebagai Kultur Starter terhadap Kualitas Rusip Teri (*Stolephorus Sp.*). *Jurnal Pascapanen Dan Bioteknologi Kelautan Dan Perikanan*, 6(1), 13–26.
- Kusuma, G. P. A. W., Nocianitri, K. A., & Pratiwi, I. D. P. K. (2020). Pengaruh Lama Fermentasi Terhadap Karakteristik Fermented Rice Drink Sebagai Minuman Probiotik Dengan Isolat *Lactobacillus sp.* F213. *Jurnal Ilmu Dan Teknologi Pangan (ITEPA)*, 9(2), 181.
- Laureys, D., Aerts, M., Vandamme, P., & Vuyst, L. De. (2018). Oxygen and diverse nutrients influence the water kefir fermentation process. *Food Microbiology*, 73, 351–361. <https://doi.org/10.1016/j.fm.2018.02.007>
- Leiwakabessy, J., Batmomolin, W., Silaban, B., & Mailoa, M. N. (2024). Penurunan Mutu Ikan Segar Hasil Budidaya Keramba Jaring Apung Di Teluk Ambon Pada Suhu Kamar (The Decrease in Quality of Fresh Fish from Floating Net Cage Cultivation in Ambon Bay at Room Temperature). *AGRITEKNO: Jurnal Teknologi Pertanian*, 13(1), 102–109.
- 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. <https://doi.org/10.14710/metana.v13i2.18012>
- Li, H., Li, G., Bi, Y., & Liu, S. (2024). Fermented Fish Products: Balancing Tradition and Innovation for Improved Quality. *Foods*, 13(16), 2565. <https://doi.org/10.3390/FOODS13162565>
- Li, Z., Song, Q., Wang, M., Ren, J., Liu, S., & Zhao, S. (2021). Comparative genomics analysis of *Pediococcus acidilactici* species. *Journal of Microbiology*, 59(6), 573–583. <https://doi.org/10.1007/S12275-021-0618-6>
- Li, Z., Zheng, M., Zheng, J., & Gänzle, M. G. (2023). *Bacillus* species in food fermentations: an underappreciated group of organisms for safe use in food fermentations. *Current Opinion in Food Science*, 50, 101007. <https://doi.org/10.1016/J.COFS.2023.101007>
- Linda, T. M., Rahmani, S. S., Wati, A. S., Febriarti, B. L., Futra, D., Olivia, M., & Juliantari, E. (2025). The Ureolytic Soil Bacteria *Bacillus albus*, a potential Agent for Biocement. *HAYATI Journal of Biosciences*, 32(3), 829–839. <https://doi.org/10.4308/HJB.32.3.829-839>
- Litaay, C., Indriati, A., Andriansyah, R. C. E., Novianti, F., Purwandoko, P. B., Rahman, N., Nuraini, L., Rahman, N., & Hidayat, T. (2023). Karakteristik kimia dan keamanan mikroba tepung ikan teri hitam (*Stolephorus commersonii*): Chemical characteristics and microbial safety of commerson's anchovy meal (*Stolephorus commersonii*). *Jurnal Pengolahan Hasil Perikanan Indonesia*, 26(3), 497–509. <https://doi.org/10.17844/JPHPI.V26I3.48355>
- Liu, Y., Du, J., Lai, Q., Zeng, R., Ye, D., Xu, J., & Shao, Z. (2017). Proposal of nine novel species of the *Bacillus cereus* group. *International Journal of Systematic and Evolutionary Microbiology*, 67(8), 2499–2508. <https://doi.org/10.1099/ijsem.0.001821>
- Liu, Y., Zhang, L., Gao, S., Bao, Y., Tan, Y., Luo, Y., Li, X., & Hong, H. (2022). Effect of protein oxidation in meat and exudates on the water holding capacity in bighead carp (*Hypophthalmichthys nobilis*) subjected to frozen storage. *Food Chemistry*, 370. <https://doi.org/10.1016/j.foodchem.2021.131079>
- LPSN. (2020). *Species: Ureibacillus xyleni*. List of Prokaryotic Names with Standing in Nomenclature. <https://lpsn.dsmz.de/species/ureibacillus-xyleni>
- Lunn, J., & Buttriss, J. L. (2007). Carbohydrates and dietary fibre. *Nutrition Bulletin*, 32(1), 21–64.
- Ma, X., Sang, X., Yan, C., Zhang, Y., Bi, J., Zhang, G., Hao, H., & Hou, H. (2022). Dynamics of Bacterial Composition and Association with Quality Formation and Biogenic Amines Accumulation during Fish Sauce Spontaneous Fermentation. *Applied and Environmental Microbiology*, 88(13), e00690-22. <https://doi.org/10.1128/AEM.00690-22>
- Mahendra, P. E. D., Yusasrini, N. L. A., & Pratiwi, I. D. P. K. (2019). Pengaruh Metode Pengolahan Terhadap Kandungan Tanin Dan Sifat Fungsional Tepung Proso Millet (*Panicum miliaceum*). *Jurnal Ilmu Dan Teknologi Pangan (ITEPA)*, 8(4), 354. <https://doi.org/10.24843/itepa.2019.v08.i04.p02>

- Majumdar, R. K., Basu, S., & Nayak, B. B. (2006). Studies on the biochemical changes during fermentation of salt-fermented Indian shad (*Tenuialosa ilisha*). *Journal of Aquatic Food Product Technology*, 15(1), 53–69. https://doi.org/10.1300/J030V15N01_04
- Majumdar, R. K., Roy, D., Bejjanki, S., & Bhaskar, N. (2015). Chemical and microbial properties of shidal, a traditional fermented fish of Northeast India. *Journal of Food Science and Technology* 2015 53:1, 53(1), 401–410. <https://doi.org/10.1007/S13197-015-1944-7>
- Maleke, M., Doorsamy, W., Abrahams, A. M., Adefisoye, M. A., Masenya, K., & Adebo, O. A. (2022). Influence of Fermentation Conditions (Temperature and Time) on the Physicochemical Properties and Bacteria Microbiota of Amasi. *Fermentation*, 8(2). <https://doi.org/10.3390/fermentation8020057>
- McCleary, B. V., McLoughlin, C., Charmier, L. M. J., & McGeough, P. (2020). Measurement of available carbohydrates, digestible, and resistant starch in food ingredients and products. *Cereal Chemistry*, 97(1), 114–137. <https://doi.org/10.1002/CCHE.10208>
- Meilgaard, M., Vance Civille, G., & Thomas Carr, B. (2016). Sensory Evaluation Techniques, Fifth Edition. In *Sensory Evaluation Techniques, Fifth Edition*. CRC Press. <https://doi.org/10.1201/9781439832271>
- Meyners, M., Jaeger, S. R., & Ares, G. (2016). On the analysis of Rate-All-That-Applied (RATA) data. *Food Quality and Preference*, 49, 1–10. <https://doi.org/10.1016/J.FOODQUAL.2015.11.003>
- Mishra, S. P., Sarkar, U., Taraphder, S., Datta, S., Swain, D. P., Saikhom, R., Panda, S., & Laishram, M. (2017). Multivariate Statistical Data Analysis-Principal Component Analysis (PCA). *International Journal of Livestock Research*, 7(5), 60. <https://doi.org/10.5455/ijlr.20170415115235>
- Munarko, H., Jariyah, J., & Kurnianto, M. A. (2023). Profiling Atribut Sensori Kukis Nastar Menggunakan Metode Rate-All-That-Applied (RATA). *Gorontalo Agriculture Technology Journal*, 6(2), 55. <https://doi.org/10.32662/gatj.v0i0.2711>
- Nareswari, A. K., Yuliarti, E. D., & Tjahjaningsih, W. (2022). Test of Total Volatile Base Nitrogen (TVB-N) in Tuna (*Thunnus* Sp.) at the at the Technical Implementation Unit for Quality Testing and Development of Marine and Fishery Product Banyuwangi, East Java. *Journal of Marine and Coastal Science*, 11(2), 49–55. <https://doi.org/10.20473/jmcs.v11i2.36710>
- Nie, J., Zhu, S., Zhang, X., Wu, D., Li, X., & Huang, Q. (2025). Effects of starters on the quality of fermented fish (Zaoyu): Key microorganisms for coloring, softening, and improving flavor. *Food Chemistry*, 465, 142087. <https://doi.org/10.1016/J.FOODCHEM.2024.142087>
- Novitasari, T. M., Rohmi, N. I., Jurusan, A., Kesehatan, K., & Mataram, I. (2019). Potensi Ikan Teri Jengki (*Stolephorus indicus*) Sebagai Bahan Media Alternatif untuk Pertumbuhan Bakteri *Staphylococcus aureus*. *Jurnal Analisis Medika Biosains (JAMBS)*, 6(1), 1–15.

- Nuraini, A., & Ibrahim, R. (2014). Pengaruh Penambahan Konsentrasi Sumber Karbohidrat Dari Nasi Dan Gula Merah Yang Berbeda Terhadap Mutu Bekasam Ikan Nila Merah (*Oreochromis niloticus*). *Saintek Perikanan*, 10(1), 19–25.
- Nuraini, A., Ibrahim, R., & Rianingsih, L. (2014). Pengaruh Penambahan Konsentrasi Sumber Karbohidrat Dari Nasi Dan Gula Merah Yang Berbeda Terhadap Mutu Bekasam Ikan Nila Merah (*Oreochromis niloticus*). *Jurnal Saintek Perikanan*, 10(1), 19–25. <http://ejournal.undip.ac.id/index.php/saintek>
- Nurhamzah, L. Y. (2021). *Karakterisasi Mikrobiologi, Kimia, dan Intensitas Rasa Umami Produk Rusip dari Bangka*. <http://repository.ipb.ac.id/handle/123456789/105863>
- Nurhamzah, L. Y., Lioe, H. N., & Adawiyah, D. R. (2021). *Karakterisasi Mikrobiologi, Kimia, dan Intensitas Rasa Umami Produk Rusip dari Bangka*. <http://repository.ipb.ac.id/handle/123456789/105863>
- Nurilmala, M., Nurjanah, N., Fatriani, A., Indarwati, A. R., & Pertiwi, R. M. (2022). Kemunduran Mutu Ikan Baronang (*Siganus Javus*) Pada Penyimpanan Suhu Chilling. *Jurnal Teknologi Perikanan Dan Kelautan*, 12(1), 93–101. <https://doi.org/10.24319/jtpk.12.93-101>
- Nurlaela, R. S., Pertiwi, R. R., & Maulidi, M. R. (2025). Profil Sensori Marshmallow dengan Penambahan Sari Buah Kecombrang (*Etlingera elatior*) Menggunakan Metode RATA Sensory Profile of Marshmallows with Kecombrang Fruit (*Etlingera elatior*) Extract Using RATA Method. *Jurnal Ilmiah Pangan Halal*, 7, 117–127. <https://doi.org/10.30997/jiph.v7i1.16774>
- Nurlaela, S., Sunarti, T. C., & Meryandini, A. (2017). Formula Media Pertumbuhan Bakteri Asam Laktat *Pediococcus pentosaceus* Menggunakan Substrat Whey Tahu. *Jurnal Sumberdaya Hayati*, 2(2), 31–38. <https://doi.org/10.29244/JSDH.2.2.31-38>
- Nurlaela, S., Sunarti, T. C., & Meryandini, A. (2016). Formula Media Pertumbuhan Bakteri Asam Laktat *Pediococcus pentosaceus* Menggunakan Substrat Whey Tahu. *Jurnal Sumberdaya Hayati*, 2(2), 31–38. <https://doi.org/10.29244/JSDH.2.2.31-38>
- Oppermann, A. K. L., de Graaf, C., Scholten, E., Stieger, M., & Piqueras-Fiszman, B. (2017). Comparison of Rate-All-That-Apply (RATA) and Descriptive sensory Analysis (DA) of model double emulsions with subtle perceptual differences. *Food Quality and Preference*, 56, 55–68. <https://doi.org/10.1016/J.FOODQUAL.2016.09.010>
- Oshiro, M., Tanaka, M., Zendo, T., & Nakayama, J. (2020). Impact of pH on succession of sourdough lactic acid bacteria communities and their fermentation properties. *Bioscience of Microbiota, Food and Health*, 39(3), 152. <https://doi.org/10.12938/BMFH.2019-038>
- Paludan-Müller, C., Madsen, M., Sophanodora, P., Gram, L., & Møller, P. L. (2002). Fermentation and microflora of plaasom, a Thai fermented fish product prepared with different salt concentrations. *International Journal of Food Microbiology*, 73(1), 61–70. [https://doi.org/10.1016/S0168-1605\(01\)00688-2](https://doi.org/10.1016/S0168-1605(01)00688-2)

- Pandit, I. G. S., & Permatananda, P. A. N. K. (2022). Pengaruh Pengemasan Vakum Terhadap Mutu Dan Daya Simpan Pindang Tongkol (Auxis Tharzad, Lac.). *Jurnal Teknologi Pangan Dan Gizi (Journal of Food Technology and Nutrition)*, 21(1), 19–31. <https://doi.org/10.33508/JTPG.V21I1.3177>
- Pathare, P. B., Opara, U. L., & Al-Said, F. A. J. (2012). Colour Measurement and Analysis in Fresh and Processed Foods: A Review. *Food and Bioprocess Technology* 2012 6:1, 6(1), 36–60. <https://doi.org/10.1007/S11947-012-0867-9>
- Phadke, G., Elavarasan, K., & Shamasundar, B. A. (2014). Angiotensin-I Converting Enzyme (Ace) Inhibitory Activity And Antioxidant Activity Of Fermented Fish Product Ngari As Influenced By Fermentation Period. *International Journal of Pharma and Bio Sciences, Volume 5 Issue 2(2)*, 134–142. <http://www.ijpbs.net/details.php?article=3344>
- Prasmatiwi, E. F., Evizal, R., & Zahra, R. A. (2022). Pengadaan Bahan Baku Nira Dan Nilai Tambah Pengolahan Gula Aren Di Desa Air Kubang, Air Naningan Kabupaten Tanggamus. *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 8(2), 1188–1201. <https://doi.org/10.25157/MA.V8I2.7863>
- Pratiwi, I. D. P. K., Saputra, R. A., & Yusasrini, N. L. A. (2023). Evaluasi Profil Sensori Produk Kopi Instan Starbucks VIA Ready Brew Unflavored Menggunakan Metode CATA (Check-All-That-Apply) Sensory Profile Evaluation Of Starbucks Instant Coffee VIA Ready Brew Unflavored Products Using CATA Method (Check-All-That-Apply. *Itepa: Jurnal Ilmu Dan Teknologi Pangan*, 12(12), 491–505.
- Prihanto, A. A., Umam, N. I., & Bangun, J. D. G. (2024). Unveiling the Secrets of Indonesian fermented Fish: Characteristics of lactic acid bacteria, roles, and potential in product development. *Food Bioscience*, 61, 104629. <https://doi.org/10.1016/J.FBIO.2024.104629>
- Puspawati, N. N., Nuraida, L., & Adawiyah, D. R. (2010). Penggunaan Berbagai Jenis Bahan Pelindung Untuk Mempertahankan Viabilitas Bakteri Asam Laktat Yang Di Isolasi Dari Air Susu Ibu Pada Proses Pengeringan Beku [Utilization of various cryogenic agents during freeze drying to Maintain the viability of Lactic. *Teknologi Dan Industri Pangan*, 21(1), 59. <http://journal.ipb.ac.id/index.php/jtip/article/view/2463>
- Puspita, A. A. (2023). *Karakteristik Rusip Ikan Teri Jengki (Stolephorus spp.) dan Metabolisme Ekstrak Protein dalam Memperbaiki Metabolisme Tikus Diabetes*. 1–176.
- Putri, D. M., Budiharjo, A., Kusdiyantini, E., & Biologi, J. (2014a). Isolasi, Karakterisasi Bakteri Asam Laktat, Dan Analisis Proksimat Dari Pangan Fermentasi Rusip Ikan Teri (Stolephorus sp.). *Jurnal Akademika Biologi*, 3(2), 11–19. <https://ejournal3.undip.ac.id/index.php/biologi/article/view/19440>
- Putri, D. M., Budiharjo, A., Kusdiyantini, E., & Biologi, J. (2014b). Isolasi, Karakterisasi Bakteri Asam Laktat, Dan Analisis Proksimat Dari Pangan Fermentasi Rusip Ikan Teri (Stolephorus sp.). *Jurnal Akademika Biologi*, 3(2), 11–19. <https://ejournal3.undip.ac.id/index.php/biologi/article/view/19440>

- Ramadhanti, B. W., Sumardianto, & Romadhon. (2024). Karakteristik mutu dan kandungan senyawa volatil bekasam cumi-cumi dengan lama fermentasi yang berbeda: Quality and volatile compound content characteristics of fermented squid bekasam with different fermentation durations. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 27(3), 208–222. <https://doi.org/10.17844/JPHPI.V27I3.48451>
- Ramakrishnan, V., Goveas, L. C., Narayan, B., & Halami, P. M. (2012). Comparison of Lipase Production by *Enterococcus faecium* MTCC 5695 and *Pediococcus acidilactici* MTCC 11361 Using Fish Waste as Substrate: Optimization of Culture Conditions by Response Surface Methodology. *ISRN Biotechnology*, 2013, 1–9. <https://doi.org/10.5402/2013/980562>
- Rao, Y., Qian, Y., Tao, Y., She, X., Li, Y., Che, Z., Li, H., & Liu, L. (2019). Influence of oxygen exposure on fermentation process and sensory qualities of Sichuan pickle (paocai). *RSC Advances*, 9(66), 38520–38530. <https://doi.org/10.1039/c9ra05994f>
- Rasbawati, R., Irmayani, I., Novieta, I. D., & Nurmiati, N. (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. <https://journal.ipb.ac.id/ipthp/article/view/25041>
- Ray, B., & Bhunia, A. (2007). Fundamental food microbiology: Fifth edition. In *Fundamental Food Microbiology: Fifth Edition*. CRC Press.
- Ray, B., & Bhunia, A. (2014). *Fundamental Food Microbiology. 5th Edition*. CRC Press.
- Rifqi, M., Rohmayanti, T., Sania, F. R., & Hapsari, U. D. (2023). *Profil Sensori Pada Roti Tawar dengan Penambahan Tepung Kulit Buah Naga Merah dengan Menggunakan Metode Rate-All-That-Applied (RATA)*. 2, 332–342.
- Rinto, R. (2010). Perubahan Kandungan Mikroflora Akibat Penambahan Starter *Pediococcus Acidilactici* F-11 Dan Garam Selama Fermentasi Peda. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 13(1).
- Rinto, R., & Subarka, H. (2017). Kajian Keamanan Dan Kualitas Rusip Bangka (Studi Kandungan Garam, Protein dan Peptida). *Prosiding Seminar Nasional Dalam Rangka Dies Natalis Ke-54 Fakultas Pertanian Universitas Sriwijaya, November*, 680–685.
- Sahubawa, L., & Ustadi. (2014). *Teknologi Pengawetan dan Pengolahan Hasil Perikanan*. Gadjah Mada Press.
- Saithong, P., Panthavee, W., Boonyaratanakornkit, M., & Sikkhamondhol, C. (2010). Use of a starter culture of lactic acid bacteria in plaasom, a Thai fermented fish. *Journal of Bioscience and Bioengineering*, 110(5), 553–557. <https://doi.org/10.1016/J.JBIOSC.2010.06.004>
- Sari, R., Deslianri, L., & Apridamayanti, P. (2016). Skrining Aktivitas Antibakteri Bakteriosin dari MinumanCe Hun Tiau. *Pharmaceutical Sciences and Research*, 3(2), 4. <https://doi.org/10.7454/psr.v3i2.3272>
- Setiarto, R. H. B., & Herlina, V. T. (2024). Exploring bekasam, an indigenous

- fermented fish product of Indonesia: original South Sumatra region. *Journal of Ethnic Foods* 2024 11:1, 11(1), 18-. <https://doi.org/10.1186/S42779-024-00230-W>
- Siagian, L. S., Manalu, K., & Nasution, R. A. (2024). Isolasi dan Identifikasi Bakteri Asam Laktat dari Hasil Fermentasi Limbah Organik Kulit Buah (Eco-Enzyme). *BIOEDUSAINS: Jurnal Pendidikan Biologi Dan Sains*, 7(1), 322–334. <https://doi.org/10.31539/bioedusains.v7i1.9967>
- Siddegowda, G. S., Bhaskar, N., & Gopal, S. (2017). Fermentative Properties of Proteolytic *Pediococcus* Strains Isolated from Salt Fermented Fish Hydrolysate Prepared Using Freshwater Fish Rohu (*Labeo rohita*). *Journal of Aquatic Food Product Technology*, 26(3), 341–355. <https://doi.org/10.1080/10498850.2016.1185754>
- Smid, E. J., & Kleerebezem, M. (2014). Production of aroma compounds in lactic fermentations. *Annual Review of Food Science and Technology*, 5(1), 313–326.
- Sripokar, P., Hansen, E. B., Zhang, Y., Maneerat, S., & Klomklao, S. (2022). Kapi-plaa fermented using beardless barb fish: physicochemical, microbiological and antioxidant properties as influenced by production processes. *International Journal of Food Science and Technology*, 57(2), 1161–1172. <https://doi.org/10.1111/IJFS.15484>
- Sudarmadji, S., Haryono, B., & Suhardi. (1997). *Prosedur Analisa untuk Bahan Makanan dan Pertanian*. Liberty.
- Suharto, S., Agustini, T. W., & Amalia, U. (2024). Effect of *Pediococcus acidilactici* bioaugmentation on the quality improvement of milkfish (*Chanos chanos*) Bekasam. *Food Research*, 8(2), 361–370. [https://doi.org/10.26656/fr.2017.8\(2\).483](https://doi.org/10.26656/fr.2017.8(2).483)
- Sujono, Rofat, Hendra, & Kusnul. (2019). Karakter Rasa dan pH Yoghurt Susu Kambing pd lama dan Jenis Starter yang Berbeda. *Berdikari: Jurnal Inovasi Dan Penerapan Ipteks*, 7(1), 27–35. <https://doi.org/10.18196/BDR.7154>
- Sukarman, S., Astuti, D. A., & Utomo, N. B. P. (2018). EVALUASI KUALITAS WARNA IKAN KLOWN *Amphiprion percula* Lacepède 1802 TANGKAPAN ALAM DAN HASIL BUDIDAYA. *Jurnal Riset Akuakultur*, 12(3), 231–239. <https://doi.org/10.15578/JRA.12.3.2017.231-239>
- Sulistijowati, R., & Habie, D. A. (2023). *Mutu Ikan dari Perairan Teluk Tomini sebagai sumber pangan*.
- Suprayitno, E. (2017). *Dasar Pengawetan*. UB Press.
- Suprayitno, E. (2022). *Dasar Pengawetan*. UB Press.
- Suprihatin. (2010). Teknologi Fermentasi. In *UNESA University Press*. UNESA University Press.
- Susilowati, R., Koesoemawardani, D., & Rizal, S. (2014). Profil Proses Fermentasi Rusip Dengan Penambahan Gula Aren Cair. *Jurnal Teknologi & Industri Hasil Pertanian*, 19(2), 137–148. <https://doi.org/10.23960/JTIHP.V19I2.137>

- Sutono, D., & Susanto, A. (2016). Pemanfaatan Sumberdaya Ikan Teri di Perairan Pantai Tegal. *Jurnal Perikanan Dan Kelautan*, 6(2), 104. <https://doi.org/10.33512/jpk.v6i2.1104>
- Sutrisna, R., Nugroho Ekowati, C., & Sinaga, E. (2015). Pengaruh pH terhadap Produksi Antibakteri oleh Bakteri Asam Laktat dari Usus Itik. *Jurnal Penelitian Pertanian Terapan*, 15(3), 234–238. <https://doi.org/10.25181/jppt.v15i3.135>
- Suyanto, A., Hersoelistyorini, W., Arinachaque, F., Imam, W., & Khamdi, A. (2023). Analisis Komponen Utama Dalam Pemetaan. *Jurnal Penelitian Ilmu-Ilmu Teknologi Pangan*, 12(1), 14–22.
- Tefbana, K. J., Ginting, K. B., & Pangaribuan, R. M. (2022). Analisis Keputusan Dengan Teorema Bayes Dari Pohon Keputusan. *Jurnal Diferensial*, 4(1), 44–52. <https://doi.org/10.35508/jd.v4i1.6135>
- Ter, Z. Y., Chang, L. S., Babji, A. S., Zaini, N. A. M., Fazry, S., Sarbini, S. R., Peterbauer, C. K., & Lim, S. J. (2024). A review on proteolytic fermentation of dietary protein using lactic acid bacteria for the development of novel proteolytically fermented foods. *International Journal of Food Science and Technology*, 59(3), 1213–1236. <https://doi.org/10.1111/IJFS.16888>
- Thariq, A. S. (Ahmad), Swastawati, F. (Fronthea), & Surti, T. (Titi). (2014). Pengaruh Perbedaan Konsentrasi Garam Pada Peda Ikan Kembung (*Rastrelliger Neglectus*) Terhadap Kandungan Asam Glutamat Pemberi Rasa Gurih (Umami). *Jurnal Pengolahan Dan Bioteknologi Hasil Perikanan*, 3(3), 104–111. <https://www.neliti.com/id/publications/124531/>
- Theodoridis, G. A., Gika, H. G., Want, E. J., & Wilson, I. D. (2012). Liquid chromatography–mass spectrometry based global metabolite profiling: A review. *Analytica Chimica Acta*, 711, 7–16. <https://doi.org/10.1016/J.ACA.2011.09.042>
- Todorov, S. D., Dioso, C. M., Liong, M. T., Nero, L. A., Khosravi-Darani, K., & Ivanova, I. V. (2022). Beneficial features of *pediococcus*: from starter cultures and inhibitory activities to probiotic benefits. *World Journal of Microbiology & Biotechnology*, 39(1), 4. <https://doi.org/10.1007/S11274-022-03419-W>
- Toe, C. J., Foo, H. L., Loh, T. C., Mohamad, R., Rahim, R. A., & Idrus, Z. (2019). Extracellular Proteolytic Activity and Amino Acid Production by Lactic Acid Bacteria Isolated from Malaysian Foods. *International Journal of Molecular Sciences* 2019, Vol. 20, Page 1777, 20(7), 1777. <https://doi.org/10.3390/IJMS20071777>
- Udomsil, N., Rodtong, S., Choi, Y. J., Hua, Y., & Yongsawatdigul, J. (2011). Use of *Tetragenococcus halophilus* as a starter culture for flavor improvement in fish sauce fermentation. *Journal of Agricultural and Food Chemistry*, 59(15), 8401–8408. <https://doi.org/10.1021/JF201953V>
- Varela, P., & Ares, G. (2012). Sensory profiling, the blurred line between sensory and consumer science. A review of novel methods for product characterization. *Food Research International*, 48(2), 893–908. <https://doi.org/10.1016/J.FOODRES.2012.06.037>

- Vinicius De Melo Pereira, G., De Carvalho Neto, D. P., Junqueira, A. C. D. O., Karp, S. G., Letti, L. A. J., Magalhães Júnior, A. I., & Soccol, C. R. (2020). A Review of Selection Criteria for Starter Culture Development in the Food Fermentation Industry. *Food Reviews International*, 36(2), 135–167. <https://doi.org/10.1080/87559129.2019.1630636>
- Vinothkanna, A., Sathiyarayanan, G., Rai, A. K., Mathivanan, K., Saravanan, K., Sudharsan, K., Kalimuthu, P., Ma, Y., & Sekar, S. (2022). Exopolysaccharide Produced by Probiotic *Bacillus albus* DM-15 Isolated From Ayurvedic Fermented Dasamoolarishta: Characterization, Antioxidant, and Anticancer Activities. *Frontiers in Microbiology*, 13(March), 1–14. <https://doi.org/10.3389/fmicb.2022.832109>
- Visciano, P., Schirone, M., Tofalo, R., & Suzzi, G. (2014). Histamine poisoning and control measures in fish and fishery products. *Frontiers in Microbiology*, 5(SEP), 500. <https://doi.org/10.3389/FMICB.2014.00500>
- Walters, K. A., Myers, K. S., Ingle, A. T., Donohue, T. J., & Noguera, D. R. (2024). Effect of Temperature and pH on Microbial Communities Fermenting a Dairy Coproduct Mixture. *Fermentation*, 10(8), 1–24. <https://doi.org/10.3390/fermentation10080422>
- Wang, R., & Hartel, R. W. (2021). Understanding stickiness in sugar-rich food systems: A review of mechanisms, analyses, and solutions of adhesion. *Comprehensive Reviews in Food Science and Food Safety*, 20(6), 5901–5937.
- Wang, Y., Chen, Q., Li, L., Chen, S., Zhao, Y., Li, C., Xiang, H., Wu, Y., & Sun-Waterhouse, D. (2023). Transforming the fermented fish landscape: Microbiota enable novel, safe, flavorful, and healthy products for modern consumers. *Comprehensive Reviews in Food Science and Food Safety*, 22(5), 3560–3601.
- Wang, Y., Wu, J., Lv, M., Shao, Z., Hungwe, M., Wang, J., Bai, X., Xie, J., Wang, Y., & Geng, W. (2021). Metabolism Characteristics of Lactic Acid Bacteria and the Expanding Applications in Food Industry. *Frontiers in Bioengineering and Biotechnology*, 9(May), 1–19. <https://doi.org/10.3389/fbioe.2021.612285>
- Wang, Z., Qiao, F., Zhang, W. B., Parisi, G., Du, Z. Y., & Zhang, M. L. (2024). The flesh texture of teleost fish: Characteristics and interventional strategies. *Reviews in Aquaculture*, 16(1), 508–535.
- Wati, R. Y. (2018). Pengaruh Pemanasan Media Plate Count Agar (PCA) Berulang Terhadap Uji Total Plate Count (TPC) di Laboratorium Mikrobiologi Teknologi Hasil Pertanian Unand. 1(2), 44–47.
- Waty, K., Purwijantiningsih, E., & Pranata, S. (2019). Kualitas Fermentasi Spontan Wadi Ikan Patin (*Pangasius* Sp.) dengan Variasi Konsentrasi Garam. *Biota : Jurnal Ilmiah Ilmu-Ilmu Hayati*, 4(November 2018), 24–32. <https://doi.org/10.24002/biota.v4i1.2364>
- Wistiana, D., & Zubaidah, E. (2015). Karakteristik Kimiawi Dan Mikrobiologis Kombucha Dari Berbagai Daun Tinggi Fenol Selama Fermentasi. *Jurnal Pangan Dan Agroindustri*, 3(4), 1446–1457.

- Wu, C., Hou, H., Zhang, Y., Yang, Z., & Wang, L. (2025). Dynamics of bacterial composition and association with quality formation and histamine accumulation during Antarctic krill fish sauce fermentation. *International Journal of Food Microbiology*, 430. <https://doi.org/10.1016/j.ijfoodmicro.2024.111028>
- Xiao, H., Yu, J., Song, L., Hu, M., Guo, H., Xue, Y., & Xue, C. (2022). Characterization of flesh firmness and ease of separation in the fermentation of sea bass in terms of protein structure, texture, and muscle tissue structural changes. *Food Research International*, 162, 111965. <https://doi.org/10.1016/j.foodres.2022.111965>
- Xu, S., Song, X., Liu, J., Zhang, W., Yu, X., Yu, D., & Cheng, J. (2023). Screening and Identification of the Strain *Pediococcus acidilactici* and Its Application in Fermentation of Corn–Soybean Meal Uncooked Materials. *Fermentation*, 9(4), 383. <https://doi.org/10.3390/FERMENTATION9040383/S1>
- Xu, Y., Zang, J., Regenstein, J. M., & Xia, W. (2021). Technological roles of microorganisms in fish fermentation: a review. *Critical Reviews in Food Science and Nutrition*, 61(6), 1000–1012.
- Ye, Q., Tan, J., He, X., Wang, C., Liu, X., Li, C., Fang, Z., Chen, H., Liu, Y., Chen, S., & Zeng, Z. (2024). Effect of lipase and lipoxygenase on lipid metabolism and the formation of main volatile flavour compounds in fermented fish products: a review. *International Journal of Food Science and Technology*, 59(3), 1248–1259. <https://doi.org/10.1111/IJFS.16912>
- Yeboah, P. J., Ibrahim, S. A., & Krastanov, A. (2023). A Review of fermentation and the nutritional requirements for effective growth media for lactic acid bacteria. *Food Science and Applied Biotechnology*, 6(2), 215–240. <https://doi.org/10.15586/QAS.V14I2.1014>
- Yuan, L., Zhang, Q., Zhao, F., Jin, W., Shi, T., Xiong, Z., & Gao, R. (2023). Dynamic changes and correlation analysis of protease activities, texture and flavour compounds during fish fermentation (suanyu) using mixed culture (*Enterococcus rivorum* and *Enterococcus lactis*). *International Journal of Food Science and Technology*, 58(5), 2312–2324. <https://doi.org/10.1111/IJFS.16360>
- Yuliana, N. (2007). Profil Fermentasi “Rusip” Yang Dibuat Dari Ikan Teri (*Stolephorus* sp). *Agritech: Jurnal Fakultas Teknologi Pertanian UGM*, 27(1), 12–17.
- Yuliana, N., Koesoemawardani, D., Susilawati, S., & Kurniati, Y. (2018). *Lactic acid bacteria during fish fermentation (rusip)*.
- Zang, J., Xu, Y., Xia, W., & Regenstein, J. M. (2020). Quality, functionality, and microbiology of fermented fish: a review. *Critical Reviews in Food Science and Nutrition*, 60(7), 1228–1242.
- Zumamah, A., & Wikandari, P. R. (2013). Pengaruh Waktu Fermentasi Dan Penambahan Kultur Starter Bakteri Asam Laktat *Lactobacillus Plantarum* B1765 Terhadap Mutu Bekasam Ikan Bandeng (*Chanos chanos*). *Jurnal Teknologi*, 1(1), 69–73. <https://doi.org/10.11113/jt.v56.60>