BIBLIOGRAPHY

Agrawal, P., Nikhade, P., Patel, A., Mankar, N., & Sedani, S. (2022). Bromelain: A Potent Phytomedicine. Cureus. https://doi.org/10.7759/cureus.27876

AOAC. Official Methods of Analysis 18th edition. Association of Official Analytical Chemists; Arlington, VA, USA: 2005

Arshad, Z. I. M., Amid, A., Yusof, F., Jaswir, I., Ahmad, K., & Loke, S. P. (2014). Bromelain: an overview of industrial application and purification strategies. *Applied Microbiology and Biotechnology*, *17*, 7283–7297. https://doi.org/10.1007/s00253-014-5889-y

Aruna, T. E. (2019). Production of value-added product from pineapple peels using solid state fermentation. *Innovative Food Science & Emerging Technologies*, 102193. https://doi.org/10.1016/j.ifset.2019.102193

Badan Pusat Statistik Indonesia (BPS). (2024). *Produksi Tanaman Buah-buahan, 2023*. https://www.bps.go.id/id/statistics-table/2/NjIjMg==/produksi-tanaman-buah-buahan.html

Baliño-Zuazo, L., & Barranco, A. (2016). A novel liquid chromatography–mass spectrometric method for the simultaneous determination of trimethylamine, dimethylamine and methylamine in fishery products. *Food Chemistry*, 1207–1214. https://doi.org/10.1016/j.foodchem.2015.09.086

Coppola, D., Lauritano, C., Palma Esposito, F., Riccio, G., Rizzo, C., & de Pascale, D. (2021). Fish Waste: From Problem to Valuable Resource. *Marine Drugs*, *2*, 116. https://doi.org/10.3390/md19020116

De Asis, M. F. D., Nuñal, S., & Endoma, L. (2023). Optimization of the Enzymatic Hydrolysis of Yellowfin tuna, (Thunnus albacares) Viscera by Response Surface Methodology. *The Philippine Journal of Fisheries*, 238–251. https://doi.org/10.31398/tpjf/30.2.2022-0041

do Carmo Alves, A. P., do Carmo Alves, A., Ferreira Rodrigues, R. A., da Silva Cerozi, B., & Possebon Cyrino, J. E. (2023). Microencapsulation of *Bacillus subtilis* and oat β-glucan and their application as a synbiotic in fish feed. *Journal of Microencapsulation*, *7*, 491–501. https://doi.org/10.1080/02652048.2023.2220394

Dolino, L. G., Montecastro, D., & Basilio, A. (2020). Low-cost Recovery of Bromelain Solids from Industrial Pineapple Peel, Pulp, and Core Wastes Using Ethanolic Cashew Leaf Polyphenol. *Philippine Journal of Science*, *3*. https://doi.org/10.56899/149.03.11

Du, F., Zhang, X., Gu, H., Song, J., & Gao, X. (2019). Dynamic Changes in the Bacterial Community During the Fermentation of Traditional Chinese Fish

Sauce (TCFS) and Their Correlation with TCFS Quality. *Microorganisms*, *9*, 371. https://doi.org/10.3390/microorganisms7090371

Errington, J., & Aart, L. T. van der. (2020). Microbe Profile: Bacillus subtilis: model organism for cellular development, and industrial workhorse. *Microbiology*, *5*, 425–427. https://doi.org/10.1099/mic.0.000922

Fazial, F. F., Ling, T. L., Ahmad, A. A. A., & Zubairi, S. I. (2019). Physicochemical changes of tuna fish (Euthynnus affinis) throughout refrigerated storage condition. A preliminary study. *AIP Conference Proceedings*, 050002. https://doi.org/10.1063/1.5111250

Freitas, J., Silva, P., Vaz-Pires, P., & Câmara, J. S. (2020). A Systematic AQbD Approach for Optimization of the Most Influential Experimental Parameters on Analysis of Fish Spoilage-Related Volatile Amines. *Foods*, *9*, 1321. https://doi.org/10.3390/foods9091321

Gao, P., Xia, W., Li, X., & Liu, S. (2019). Use of Wine and Dairy Yeasts as Single Starter Cultures for Flavor Compound Modification in Fish Sauce Fermentation. *Frontiers in Microbiology*. https://doi.org/10.3389/fmicb.2019.02300

Giyatmi, & Irianto, H. E. (2017). Enzymes in Fermented Fish. In *Advances in Food and Nutrition Research* (pp. 199–216). Elsevier. http://dx.doi.org/10.1016/bs.afnr.2016.10.004

Hardjani, D., Suantika, G., & Aditiawati, P. (2017). Nutritional Profile of Red Seaweed Kappaphycus alvarezii after Fermentation using Saccharomyces Cerevisiae as a Feed Supplement for White Shrimp Litopenaeus vannamei Nutritional Profile of Fermented Red Seaweed. *Journal of Pure and Applied Microbiology*, *4*, 1637–1645. https://doi.org/10.22207/jpam.11.4.01

Harwood, C. R., & Kikuchi, Y. (2021). The ins and outs of *Bacillus* proteases: activities, functions and commercial significance. *FEMS Microbiology Reviews*, *1*. https://doi.org/10.1093/femsre/fuab046

Hazarika, D. J., Bora, S. S., Naorem, R. S., Sharma, D., Boro, R. C., & Barooah, M. (2023). Genomic insights into Bacillus subtilis MBB3B9 mediated aluminium stress mitigation for enhanced rice growth. *Scientific Reports*, *1*. https://doi.org/10.1038/s41598-023-42804-9

Holman, B. W. B., Bekhit, A. E.-D. A., Waller, M., Bailes, K. L., Kerr, M. J., & Hopkins, D. L. (2021). The association between total volatile basic nitrogen (TVB-N) concentration and other biomarkers of quality and spoilage for vacuum packaged beef. *Meat Science*, 108551. https://doi.org/10.1016/j.meatsci.2021.108551

Jiménez Alfaro, D., Sobalvarro Mena, J. L., & Elizondo Salazar, J. A. (2020). Enriquecimiento proteico de dos especies forrajeras y cáscara de piña por medio de fermentación en estado sólido. *Agronomía Costarricense*. https://doi.org/10.15517/rac.v44i2.43111

Jinadasa, B. K. K. K. (2014). Determination of Quality of Marine Fishes Based on Total Volatile Base Nitrogen test (TVB-N). 12. 106-111.

Kamal, M., Linlin, K., Gao, J., Xinrui, Z., Xinming, C., Haibo, W., Lulu, D., Abd El-Hack, M. E., Mahrose, K., & Cheng, Y. (2024). Effects of *Saccharomyces cerevisiae* and *Bacillus subtilis* on *in vitro* fermentation in the rumen of Hu sheep. *Journal of the Science of Food and Agriculture*, *1*, 498–506. https://doi.org/10.1002/jsfa.13848

Khan, A. M. A., Jiang, M., Yang, X., Apriliani, I. M., Purba, N. P., Wiryawan, B., Taurusman, A. A., & Pasaribu, B. (2024). Illegal fishing threatens the sustainability of future tuna commodities in Indonesia. *Marine Policy*, 105936. https://doi.org/10.1016/j.marpol.2023.105936

Kinanthi, A., 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*, *2*, 49–55. https://doi.org/10.20473/jmcs.v11i2.36710

Kumari, S., K.Jha, A., & Singh, A. K. (2019). Isolation and Characterization of Temperature and Ethanol Tolerant Strain of Saccharomyces cerevisiae Strains From Naturally Fermented Juices. *Biosciences, Biotechnology Research Asia*, *1*, 97–103. https://doi.org/10.13005/bbra/2726

Lee, Y.-C., Kung, H.-F., Huang, C.-Y., Huang, T.-C., & Tsai, Y.-H. (2016). Reduction of histamine and biogenic amines during salted fish fermentation by Bacillus polymyxa as a starter culture. *Journal of Food and Drug Analysis*, *1*, 157–163. https://doi.org/10.1016/j.jfda.2015.02.002

Mailoa, M. N., Tapotubun, A. M., & Matrutty, T. E. A. A. (2017). Analysis Total Plate Counte (TPC) On Fresh Steak Tuna Applications Edible Coating Caulerpa sp During Stored at Chilling Temperature. *IOP Conference Series: Earth and Environmental Science*, 012014. https://doi.org/10.1088/1755-1315/89/1/012014

Mangwanda, T. W., Mani, J. S., Johnson, J. B., Jackson, S., McKeown, T., & Naiker, M. (2023). Physicochemical and Nutritional Analysis of Molasses for Rum Fermentation. *Foods 2023*, 105. https://doi.org/10.3390/foods2023-15137

Meena, L., Sengar, A. S., Neog, R., & Sunil, C. K. (2021). Pineapple processing waste (PPW): bioactive compounds, their extraction, and utilisation: a

review. *Journal of Food Science and Technology*, *11*, 4152–4164. https://doi.org/10.1007/s13197-021-05271-6

Ministry of Marine and Fisheries. (2020). Marine and Fisheries in Figures 2020.

Nugroho, G., Wilujeng Ekawati, A., & Kartikaningsih, H. (2020). Characteristics of Tuna Viscera (Thunnus sp.) Hydrolysate Protein Fermented by Bacillus licheniformis. *Research Journal of Life Science*, *2*, 101–107. https://doi.org/10.21776/ub.rjls.2020.007.02.4

Nurhasna, A., Meryandini, A., and Candra Sunarti, T. (2023). Producing lactobacillus plantarum dry starter using Rice Bran Matrix. *BIOEDUSCIENCE*, *7*(3), 306–316. https://doi.org/10.22236/jbes/10654

Park, S.-K., Lee, J.-H., Jo, D.-M., Kang, M.-G., Jang, Y.-M., Cho, Y., Hong, D., & Kim, Y.-M. (2019). Reduction of Trimethylamine by Saccharomyces cerevisiae Isolated from Fermented Food. *Korean Journal of Fisheries and Aquatic Sciences*, *2*, 121–126. https://doi.org/10.5657/KFAS.2019.0121

Prabhakar, P. K., Vatsa, S., Srivastav, P. P., & Pathak, S. S. (2020). A comprehensive review on freshness of fish and assessment: Analytical methods and recent innovations. *Food Research International*, 109157. https://doi.org/10.1016/j.foodres.2020.109157

Qi, N., Zhan, X., Milmine, J., Chang, K.-H., & Li, J. (2024). A novel thermophilic strain of *Bacillus subtilis* with antimicrobial activity and its potential application in solid-state fermentation of soybean meal. *Microbiology Spectrum*, *4*. https://doi.org/10.1128/spectrum.02784-23

Rabie, M. A., Namir, M., Rabie, N. A., & Hassanien, M. F. R. (2019). Acceleration of mackerel fish sauce fermentation via bromelain addition. *Nutrition & Food Science*, *1*, 47–61. https://doi.org/10.1108/nfs-03-2018-0089

Ramkumar, A., Sivakumar, N., & Victor, R. (2016). Fish Waste-Potential Low Cost Substrate for Bacterial Protease Production: A Brief Review. *The Open Biotechnology Journal*, *1*, 335–341. https://doi.org/10.2174/1874070701610010335

Ramli, A. N. M., & Munir, N. (2023). Enzymatic Analysis and Characterization of Bromelain from Two Varieties of Pineapple (Ananas comosus) Fruit and Stem Extracts. *Current Science and Technology*, *2*, 13–19. https://doi.org/10.15282/cst.v2i2.9289

Rompato, K. N., & Somoza, S. N. (2015). *Protein enrichement of fruit processing byproducts using solid state fermentation with Saccharomyces cerevisiae and Bacillus subtilis. biotecnologia Aplicada, 2015, 32,* 4221-4227.

Sainorudin, M. H., Abdullah, N. A., Asmal Rani, M. S., Mohammad, M., Mahizan, M., Shadan, N., Abd Kadir, N. H., Yaakob, Z., El-Denglawey, A., & Alam,

M. (2021). Structural characterization of microcrystalline and nanocrystalline cellulose from *Ananas comosus* L. leaves: Cytocompatibility and molecular docking studies. *Nanotechnology Reviews*, *1*, 793–806. https://doi.org/10.1515/ntrev-2021-0053

Shafique, T., Shafique, J., Zahid, S., Kazi, M., Alnemer, O., & Ahmad, A. (2021). Screening, selection and development of Bacillus subtilis apr-IBL04 for hyper production of macromolecule alkaline protease. *Saudi Journal of Biological Sciences*, *2*, 1494–1501. https://doi.org/10.1016/j.sjbs.2020.11.079

Shirvanyan, A. H., Mirzoyan, S. N., & Trchounian, K. A. (2021). Peculiarities Of Growth Parameters of *Saccharomyces Cerevisiae* Under Different Conditions. *Proceedings of the YSU B: Chemical and Biological Sciences*, *3 (256)*, 255–265. https://doi.org/10.46991/pysu:b/2021.55.3.255

Sigma-Aldrich. (n.d). *Assay Procedure for Protease.* Merck. https://www.sigmaaldrich.com/ID/en/technical-documents/protocol/protein-biology/enzyme-activity-assays/assay-procedure-for-protease

Summers, G., Wibisono, R. D., Hedderley, D. I., & Fletcher, G. C. (2016). Trimethylamine oxide content and spoilage potential of New Zealand commercial fish species. *New Zealand Journal of Marine and Freshwater Research*, *3*, 393–405. https://doi.org/10.1080/00288330.2016.1250785

Sun, B., Zou, K., Zhao, Y., Tang, Y., Zhang, F., Chen, W., Tang, X., Chang, C., & Zheng, Y. (2023). The fermentation optimization for alkaline protease production by Bacillus subtilis BS-QR-052. *Frontiers in Microbiology*. https://doi.org/10.3389/fmicb.2023.1301065

Tias, E. P. A. N., Wicaksono, M. G., Hayati, L. R., Salsabila, A. F., Prabowo, K. A. D., & Setyaningsih, E. (2022). Potential Bromelain Pinneapple Extract to Breaker Tempe Protein As Organic MSG. *Asian Journal of Health and Applied Sciences*, *3*, 11–21. https://doi.org/10.53402/ajhas.v1i3.182

Tropea, A., Potortì, A. G., Lo Turco, V., Russo, E., Vadalà, R., Rando, R., & Di Bella, G. (2021). Aquafeed Production from Fermented Fish Waste and Lemon Peel. *Fermentation*, *4*, 272. https://doi.org/10.3390/fermentation7040272

Walker, G., & Stewart, G. (2016). Saccharomyces cerevisiae in the Production of Fermented Beverages. *Beverages*, *4*, 30. https://doi.org/10.3390/beverages2040030

Wu, B., Ren, T., Dan, N., Yu, P., Wang, H., Wei, M., Hu, Z., Siqin, T., Wu, T., & Niu, H. (2024). The responses of fermentation characteristics and microbial community structure and co-occurrence network to molasses and Lacticaseibacillus casei additions during anaerobic fermentation of

Caragana korshinskii. *LWT*, 116607. https://doi.org/10.1016/j.lwt.2024.116607

Zhang, W., Lv, X., Liu, Z., & Ni, L. (2022). The spoilage and adhesion inhibitory effects of Bacillus subtilis against Shewanella and Pseudomonas in large yellow croaker (Pseudosciaena crocea). *Food Science and Technology*. https://doi.org/10.1590/fst.02721

Zhu, X., Chen, Y., Hao, S., Jin, S., & Li, X. (2023). Improvement of the Nutritional Quality of Rapeseed Meal through Solid-State Fermentation with B. subtilis, S. cerevisiae, and B. amyloliquefaciens. *Fermentation*, *5*, 492. https://doi.org/10.3390/fermentation9050492