

## DAFTAR PUSTAKA

- Angraini, N., Desmaniar, P. 2020. Optimasi penggunaan *High Performance Liquid Chromatography* (HPLC) untuk analisis asam askorbat guna menunjang kegiatan Praktikum Bioteknologi Kelautan. *Jurnal Penelitian Sains* 22(2): 69-75.
- Angraini, I., Ferniah, R.S., Kusdiyantini, E. 2019. Isolasi Khamir Fermentatif dari Batang Tanaman Tebu (*Saccharum officinarum*. L) dan Hasil Identifikasinya Berdasarkan Sekuens Internal Transcribed Spacer. *Berkala Bioteknologi*. 2(2): 12-22.
- Ashenogroph, M., Nahwi, I., Zarkesh-Esfahani., Momenbeik, F. 2011. *Candida galli* Strain PGO6: A Novel Isolated Yeast Strain Capable of Transformation of Isoeugenol into Vanillin and Vanillic Acid. *Curr Microbiol* 62:990-998.
- Assagaf M, Hastuti P, Hidayat C, Supriyadi. 2012. Perbandingan Ekstraksi Oleoresin Biji Pala (*Myristica fragrans* Houtt) asal Maluku Utara menggunakan Metode Maserasi dan Gabungan Distilasi-Maserasi. *Journal Agritech* 32(3): 240– 248.
- Akbar, G.P., Kusdiyantini, E., Wijanarka. 2019. Isolasi dan Karakterisasi secara Morfologi dan Biokimia Khamir dari Limbah Kulit Nanas Madu (*Ananas cosmosus* L.) untuk Produksi Bioetanol. *Berkala Bioteknologi* 2 (2): 1 -11.
- Ashokkumar, K. , Vellaikumar, S. , Murugan, M. , Dhanya, M. K. , & Aiswarya, S. 2022. Compositional variation in the leaf, mace, kernel, and seed essential oil of nutmeg (*Myristica fragrans* Houtt.) from the Western Ghats, India. *Natural Product Research*, 36(1), 432–435.
- Babua, B., Pa, A. K., Ia, D. V., & Aa, A. P. (2021). A Comprehensive Review on Bioactive and Therapeutic Potential of Indian nutmeg *Myristica fragrans* (Houtt). *Advances in Bioscience and Biotechnology Research*, 1.
- Börner, G.V., Hochwagen, A., & MacQueen, A.J. 2023. Meiosis in Budding Yeast. *Genetics*, 225(2): 1-19.
- Camargo, J.Z., Nascimento, V.M., Stefanello, I., Silva, C.A.D.A., Goncalves., F.A., Perdomo, I.C., Vilela, D.M., Simionatto, S., Pereira, R.M., Fossa da Pazz, M., Leite, R.S.R., Gelinski, J.M.L.N., Fonseca, G.G. 2018. Biochemical Evaluation, Molecular Characterization and Identification of Novel Yeast Strains Isolated from Brazilian Savannah Fruits, Chicken Litter And A Sugar And Alcohol Mill With Biotechnological Potential For Biofuel and Food Industries. *Biocatalysis and Agricultural Biotechnology*. 16: 390-399.

- Cao, L., Wang, Q., Zhang, J., Li, C., Yan, X., Lou, X., & Xian, M. 2019. Construction of A Stable Cresol-Producing Strain of *Pseudomonas putida* KT2440. *Microbial Cell Factories*, 18(1), 1-11.
- Chang, M.Y.; Chen, H.S. 2022. Understanding Consumers' Intentions to Purchase Clean Label Products: Evidence from Taiwan. *Nutrients* 14, 3684.
- Chavez, C.M., Groenewald, M., Hulfachor, A.B., Kpurubu, G., Huerta, R., Hittinger, C.T., Rokas, A. 2024. The cell morphological diversity of *Saccharomycotina* yeasts. *FEMS Yeast Research* 24
- Chowdhury, R., Bhuia, M.S., Al Hasan, M.S., Ansari, S.A., Ansari, I.A., Gurgel, A.P.A.D, Coutinho, H.D.M., Islam, M.T. 2024. Anticonvulsant Effect of ( $\pm$ ) Citronellal Possibly Through the GABAergic and Voltage-gated Sodium Channel Receptor Interaction Pathways: In Vivo and In Silico Studies. *Neurochemistry International*, 175.
- Ceccato-Antonini, S.R. 2022. Methods for the Identification and Characterization of Yeasts from Ethanolic Fermentation. In: *Microbiology of Ethanol Fermentation in Sugarcane Biofuels*. Springer, Cham.
- Cian, R.E., Drago, S.R. 2022. Microbial Bioactive Peptides from Bacteria, Yeasts, and Molds. *Handbook of Food Bioactive Ingredients*. ISBN : 978-3-030-81404-5.
- Colomer, M.S., Funch, B., Solodovnikova, N., Hobley, T.J., Förster, J. 2020. Biotransformation of hop derived compounds by *Brettanomyces* yeast strains. *J. Inst. Brew* 126, 280–288.
- Corbu, V., Vassu, T., Csutak, O. 2019. *Pichia* (*Kodamaea*) *ohmeri* CMGB-ST19 - A New Strain with Complex Biotechnological Properties. 8 (1): 77-86.
- Cossetin, L. F. , Santi, E. M. T. , Garlet, Q. I. , Matos, A. F. I. M. , De Souza, T. P. , Loebens, L. , ... Monteiro, S. G. 2021. Comparing the Efficacy of Nutmeg Essential Oil and a Chemical Pesticide Against *Musca domestica* and *Chrysomya albiceps* for Selecting a New Insecticide Agent Against Synantropic Vectors. *Experimental Parasitology*, 225, 108104
- Devadas SM, Ballal M, Prakash PY, Hande MH, Bhat GV, Mohandas V. 2017. Auxanographic Carbohydrate Assimilation Method for Large Scale Yeast Identification. *J Clin Diagn Res* 11(4): DC01–DC03
- Fatima, K., Luqman, S. 2021. Citronellal Suppress the Activity of Ornithine Decarboxylase in Hypopharyngeal Carcinoma Cells. *South African Journal of Botany*, 143: 443-448.
- Francis, S. K. , James, B. , Varughese, S. , & Nair, M. S. 2019. Phytochemical investigation on *Myristica fragrans* stems, bark. *Natural Product Research*, 33: 1204–1208
- Gerocs, A., Nemes-Barnas, K., Pal, S., Szoke, B., Majer, J., Farkas, T., Olasz, F. 2020. Isolation and characterization of yeast strains from Badacsony,

- Hungary. *Indian Journal of Experimental Biology*. 58: 461-473.
- Harahap, M.R. 2018. Elektroforesis: Analisis Elektronika Terhadap Biokimia Genetika. *CIRCUIT: Jurnal Ilmiah Pendidikan Teknik Elektro*, 2 (1): 21-26.
- Hitschler, J., Boles, E. 2019. De Novo Production of Aromatic M-Cresol in *Saccharomyces cerevisiae* Mediated by Heterologous Polyketide Synthases Combined with A 6-Methylsalicylic Acid Decarboxylase. *Metabolic Engineering Communication*, 9.
- Jaziri, A.A., Sukoso., & Firdaus, M. 2017. Karakteristik Protease dari Ekstrak Kasar Khamir Laut dan Aktivasnya dalam Menghidrolisis Protein Ikan Rucuh. *Journal of Fisheries and Marine Science*, 1 (2): 78-87
- Jiang, G., Yao, M., Wang, Y., Xiao, W., Yuan, Y. 2021. A “push-pull-restrain” strategy to improve citronellol production in *Saccharomyces cerevisiae*. *Metabolic Engineering* 66: 51 – 59.
- Karmanah, Susanto, S., Widodo, W.D., Santosa, E. 2020. The Fruit Characteristics of Ambon Forest Nutmeg (*Myristica fatua* Houtt) and Banda Nutmeg (*Myristica fragrans* Houtt). *Jurnal Ilmu Pertanian Indonesia (JIPI)* 25 (2): 291-298.
- Kim, Y. S., Hwang, J. H., Lee, S. G. 2024. Biochemical Characterization of Yeast Strains for Bioflavour Production. *Journal of Applied Microbiology*, 136 (2), 345-356.
- Kumari, I., Kaurav, H., & Chaudhary, G. 2021. *Myristica fragrans* (Jaiphal): A Significant Medicinal Herbal Plant. *International Journal for Research in Applied Sciences and Biotechnology*, 8(2), 213–224.
- Kurtzman, C. P., Mateo, R. Q., Kolecka, A., Theelen, B., Robert, V., & Boekhout, T. 2015. Advances in Yeast Systematics and Phylogeny and Their Use as Predictors of Biotechnologically Important Metabolic Pathways. *FEMS Yeast Research*, 15(6).
- Li, Y., Li, X., & Zhang, Y. 2023. Morphological and Biochemical Characteristics of Yeast Isolates from Different Environments. *Fungal Diversity*, 66 (1), 189-203.
- Looke, M., Kristjuhan, K., Kristjuhan, A. 2011. Extraction of Genomic Dna From Yeasts for Pcr-Based Applications. *Biotechniques* 50 (5):325-328.
- Macas, S. 2020. The Role of Yeasts in Fermentation Processes. *Microorganism* 8 (8): 1142.
- Macedo Alves, G., Macedo Alves, J., Fleuri, L.F. 2010. Fermentation and Fruit Flavour Production. In: Hui, Y.H. *Handbook of Fruit and Vegetable Flavours*. John Wiley&Sons., New Jersey.
- Melini, F.; Melini, V. 2024. Role of Microbial Fermentation in the Bio-Production of Food Aroma Compounds from Vegetable Waste. *Fermentation* 10

(132): 1 -23.

- Méndez-Hernández, J.E., Rodríguez-Durán, L.V., Páez-Lerma, J.B., Soto-Cruz, N.O. 2023. Strategies for Supplying Precursors to Enhance the Production of Secondary Metabolites in Solid-State Fermentation. *Fermentation* 9(9), 804.
- Mollah, A., Ashan M.A., & Khatimah, A.H. 2022. Uji Kualitas dan Kuantitas DNA Porang (*Amorphophallus Muelleri Blume*) pada Beberapa Kawasan di Sulawesi Selatan. *Jurnal Agritechno*, 15 (1): 1-7.
- Nagaki, M., Nara, T., Sakaiya, S., Yamanouchi, K., Tsujiguchi, T., & Chounan, Y. 2018. Biotransformation of Citroellal, Geranial, Citral and Their Analogs by Fungus and Their Antimicrobial Activity. *Trans.Mat.Res.Soc. Japan*, 43 (6): 355-358.
- Nasir, A., Rahman, S. S., Hossain, M. M., Choudhury, N. 2017. Isolation of *Saccharomyces cerevisiae* from Pineapple and Orange and Study of Metal's Effectiveness of Ethanol Production. *European Journal of Microbiology and Immunology*, 1 (7) :76-91.
- Nguyen, T. T., Hoang, N. T., Tran, Q. T. 2023. Correlation between Yeast Morphology and Bioflavour Production. *Mycological Research*, 127 (6), 873-882.
- Offei, B., Vandecruys, P., De Graeve, S., Foulquié-Moreno, M. R., & Thevelein, J. M. 2019. Unique Genetic Basis of The Distinct Antibiotic Potency of High Acetic Acid Production in The Probiotic Yeast *Saccharomyces cerevisiae* var. *Boulardii*. *Genome Research*, 29(9), 1478-1494
- Ohashi, Y., Huang, S., Maeda, I. 2021. Biosyntheses of geranic acid and citronellic acid from monoterpene alcohols by *Saccharomyces cerevisiae*. *Bioscience, Biotechnology, and Biochemistry*, 85 (6) : 1530–1535.
- Patel, M. S., & Gupta, S. R. 2022. Antimicrobial Properties of Octanoic Acid in Food Preservation. *Food Chemistry*, 375, 131-145.
- Periasamy, G. , Karim, A. , Gibrelibanos, M. , Gebremedhin, G. , & Gilani, A. H. (2016). Nutmeg (*Myristica fragrans* Houtt.) oils. In Preedy V. R. (Ed.), *Essential oils in food preservation, flavor and safety* (pp. 607–616). New York, NY: Academic Press.
- Pessôa, M. G., Paulino, B. N., Molina, G., & Pastore, G. M. 2019. Prospective Research and Current Technologies for Bioflavor Production. *Bioprocessing for Biomolecules Production* 93–123.
- Prihartini, M., Ilmi, M. 2018. Karakterisasi dan Klasifikasi Numerik Khamir Madu Hutan dari Sulawesi Tengah. *Jurnal Mikologi Indonesia* 2 (2): 112-127.
- Procópio, D.P., Lee, J.W., Shin, J., Tramontina, R., Avila, P.V., Brenelli, L.B., Marcio, Squina, F., Damasio, A., Rabelo, S.C., Goldbeck, R., Franco, T.T., Leak, D., Yong, S. J., Basso, T.O. 2023. Metabolic engineering of *Saccharomyces cerevisiae* for second-generation ethanol production

from xylo-oligosaccharides and acetate. *Sci Report*.13.

- Roberts, R., Silcock, P., Leus, M., Biasioli, F., Bremer, P., T. Eyres, G. 2024. Analysis of Terpenoid Biotransformation in Beer by Commercial *Saccharomyces Cerevisiae* Yeast Using Headspace SPME-GC/MS. *Food Chemistry Advances*, 4.
- Sachivkina, N., Podoprigora, & Bokov, D. 2021. Morphological Characteristics of *Candida albicans*, *Candida krusei*, *Candida guilliermondii*, and *Candida glabrata* Biofilms, and Response to Farnesol. *Veterinary World*. 14 (6): 1608-1614.
- Saldana, C., Villava, C., Ramirez-Villareal, J., Morales-Tlalpan, V., Campos-Guillen, J., Chavez-Servin, J., & Garcia-Gasca, T. 2021. Rapid and Reversible Cell Volume Changes in Response to Osmotic Stress in Yeast. *Brazilian Journal of Microbiology*, 52(2): 895-903.
- Saputro, M. A., Andarwulan, N., & Faridah, D. N. 2016. Physical characterization and essential oil properties of West Sumatra mace and nutmeg seed (*Myristica fragrans* Houtt) at different ages at harvest. *Journal of Pharmacognosy & Phytochemistry*, 5(6), 371–376.
- Sari, L., Lesmana, D., Taharuddin. 2018. Estraksi Minyak Atsiri dari Daging Buah Pala (Tinjauan Pengaruh Metode Destilasi dan Kadar Air Bahan). *Jurnal Universitas Muhammadiyah Jakarta*.
- Shaaban, H.A., Mahmoud, K.F., Amin, A.A., E Banna, H.A., 2016. Application of Biotechnology to The Production of Natural Flavor and Fragrance Chemicals. *Research Journal Pharmaceutical Biological and Chemical Science* 7 (6): 2670 – 2717.
- Sharma, R., Rao, R., Kumar, S., Mahant, S., Khatkar, S. 2019. Therapeutic Potential of Citronella Essential Oil: A Review. *Current Drug Discovery Technologies*, 16 (4): 330-339
- Shiau, C.J., Tsao, M.S. 2017. Molecular Testing in Lung Cancer. *Diagnostic Molecular Pathology*, 287-303.
- Smitha, M.S., Singh, S., Singh, R. 2017. Microbial Biotransformation: A Process for Chemical Alteration. *Journal Bacteriol Mycol*, 4 (2); 85.
- Sudiyarmanto, S., Adilina, I.B., Aditya, R.R., Sukandar, D., Tursiloadi, S. 2017. Catalytic Conversion of Citronellal to Citronellol over Skeletal Ni Catalys. *Journal of Physics: Conference Series*, 1442.
- Sulmiyati, Said, N.S., Fahrodi, D.U., Malaka, R., Maruddin. 2019. The Characteristics Yeast Isolated from Commercial Kefir Grain. *Hasanuddin Journal of Animal Science*. 1 (1): 26 -37.
- Sultan, M. T., Saeed, F., Raza, H., Ilyas, A., Sadiq, F., Musarrat, A., ... Al JBawi, E. 2023. Nutritional and therapeutic potential of nutmeg (*Myristica fragrans*): A concurrent review. *Cogent Food & Agriculture*, 9(2)

- Sultana, A., Najeeya, A. G., & Anjum, A. (2018). Traditional unani uses with multiple pharmacological activities of aril of *Myristica fragrans* (mace). *CELLMED*, 8(2), 6–1.
- Sumerta, I.N., Kanti, A, 2017. Keragaman Jenis Khamir Penghasil Etanol yang Diisolasi dari Makanan Fermentasi di Kepulauan Riau. *Jurnal Biologi Indonesia* 13(1): 61-69.
- Sunarharum, W. B., Williams, D. J., & Smyth, H. E. 2014. Complexity of Coffee Flavor: A Compositional and Sensory Perspective. *Food Research International*, 62, 315-325.
- Wang, J., Wang, Z., He, F., Pan, Z., Du, Y., Chen, Z., He, Y., Sun, Y., Li, M. 2024. Effect of Microbial Communities on Flavor Profile of Hakka Rice Wine Throughout Production. *Food Chemistry: X*. 30(21): 101121.
- Wernig, F., Baumann, L., Boles, E., Oreb, M. 2021. Production of octanoic acid in *Saccharomyces cerevisiae*: Investigation of new precursor supply engineering strategies and intrinsic limitations. *Biotechnology and Bioengineering*, 188 (8): 3046-3057.
- Wijayanti, L.W. 2015. Isolasi Sitronellal dari Minyak Sereh Wangi (*Cymbopogon winterianus* Jowit) dengan Distilasi Fraksinasi Pengurangan Tekanan. *Jurnal Farmasi Sains dan Komunitas* 12 (1): 22 -29.
- Workman, M., Holt, P., & Thykaer, J. 2013. Comparing Cellular Performance of *Yarrowia lipolytica* During Growth on Glucose and Glycerol in Submerged Cultivations. *AMB Express*, 3(1), 58.
- Yahya, A., Rubiyanto, D., Fatimah, I. 2021. Heterogeneous Catalytic Conversion of Citronellal into Isopulegol and Menthol: Literature Review. *Science and Technology Indonesia*, 6(3): 166-180.
- Zhang, X., & Chen, Y. 2020. The effect of environmental factors on yeast metabolism in the context of fermentation efficiency and metabolic stress responses. *Journal of Industrial Microbiology & Biotechnology*, 47(5), 485-496.
- Zhang, H., Zheng, Y., Liu, C. 2023. Enzyme Activities Involved in the Biosynthesis of Aroma Compounds in Yeast. *Enzyme and Microbial Technology*, 158, 109931.
- Zhang, J., Li, Y., Gao, H., Zhang, H., Zhang, X., Rao, Z., Xu, M. 2024. N-Terminal Truncation (N-) and Directional Proton Transfer in an Old Yellow Enzyme Enables Tunable Efficient Producing (R)- or (S)-Citronellal. *International Journal of Biological Macromolecules*, 262.
- Zhao J., Bao X., Li C., Shen Y., Hou J. 2016. Improving Monoterpene Geraniol Production Through Geranyl Diphosphate Synthesis Regulation in *Saccharomyces cerevisiae*. *Appl. Microbiol. Biotechnol.* 100 4561–4571.
- Zhao, Y., Lin, X. 2021. *Cryptococcus neoformans*: Sex, Morphogenesis, and

Virulence. *Infect Genet Evol*, 89.

Zongo, O., Zongo, U., Cissé, H., Kagambèga, B., Tarnagda, B., Muandze Nzambe, J.U., Sawadogo, A., Tapsoba, F., Zongo, C., Traoré, Y., Savadogo, A. 2021. Biochemical and Molecular Characterization of Yeasts and Lactic Acid Bacteria Isolated from *Borassus Aethiopum* Mart. Sap in Burkina Faso. *Food Research*, 5 (2): 155-163.