



DAFTAR PUSTAKA

- Barry, D. J. & G. A. William. 2011. Microscopic characterisation of filamentous microbes: Towards fully automated morphological quantification through image analysis. *Journal of Microscopy*, 244(1):1-20. doi: [10.1111/j.1365-2818.2011.03506](https://doi.org/10.1111/j.1365-2818.2011.03506).
- Bhanja, A., Minde, G., Magdum, S., & Kalyanraman, V. 2014. Comparative Studies of *Oleaginous* Fungal Strains (Mucor circinelloides and Trichoderma reesei) for Effective Wastewater Treatment and Bio- Oil Production. *Biotechnology Research International*, 2014, 1-7. <https://doi.org/10.1155/2014/479370>
- Coban, H. B., & Demirci, A. 2016. Enhancement and modeling of microparticle added Rhizopus oryzae lactic acid production. *Bioprocess and biosystems engineering*, 39(2), 323–330. <https://doi.org/10.1007/s00449-015-1518-0>
- Driouch, Habib & Haensch, Robert & Wucherpfennig, Thomas & Krull, Rainer & Wittmann, Christoph. 2012. Improved enzyme production by bio- pellets of Aspergillus niger: Targeted morphology engineering using titanate microparticles. *Biotechnology and bioengineering*. doi.org 109. 462-71. 10.1002/bit.23313.
- Dzurendova, S., Losada, C. B., Dupuy-Galet, B. X., Fjær, K., & Shapaval, V. 2022. Mucoromycota fungi as powerful cell factories for modern biorefinery. *Applied microbiology and biotechnology*, 106(1), 101–115. <https://doi.org/10.1007/s00253-021-11720-1>
- Etschmann, M. M., Huth, I., Walisko, R., Schuster, J., Krull, R., Holtmann, D., Wittmann, C., & Schrader, J. 2015. Improving 2-phenylethanol and 6-pentyl- α -pyrone production with fungi by microparticle-enhanced cultivation (MPEC). *Yeast (Chichester, England)*, 32(1), 145–157. <https://doi.org/10.1002/yea.3022>
- Gad, S. C. 2014. *Talc*. *Encyclopedia of Toxicology*, 468–470. doi:10.1016/b978-0-12-386454-3.00934-9
- Gao, D., Zeng, J., Yu, X., Dong, T., & Chen, S. 2014. Improved lipid accumulation by morphology engineering of oleaginous fungus Mortierella isabellina. *Biotechnology and bioengineering*, 111(9), 1758–1766. <https://doi.org/10.1002/bit.25242>
- Grimm, L. H., Kelly, S., Hengstler, J., Gobel, A., Krull, R., & Hempel, D. C. 2004. Kinetic studies on the aggregation of Aspergillus niger conidia. *Biotechnology and Bioengineering*, 87(2), 213–218
- Gultom, S. O. and B. Hu. 2013. Review of Microalgae Harvesting via C0- Pelletization



with Filamentous Fungus. *Energies* (6):5921-5939. doi: 10.3390/en6115921

Haura, A & Ilmi, Miftahul. 2022. Isolasi dan Karakterisasi Kapang Mucorales Oleaginous dari Buah-Buahan di Sleman, D.I. Yogyakarta, Indonesia Universitas Gadjah Mada| Diakses dari http://etd.repository.ugm.ac.id

Hille, A., Neu, T. R., Hempel, D. C., & Horn, H. 2009. Effective diffusivities and mass fluxes in fungal biopellets. *Biotechnology and Bioengineering*, 103(6), 1202–1213

Huang, G., Zhou, H., Tang, Z., Liu, H., Cao, Y., Qiao, D. and Cao, Y. 2016. Novel fungal lipids for the production of biodiesel resources by *Mucor fragilis* AFT7-4. *Environmental Progress & Sustainable Energy*. 35(6): 784-1792. DOI:10.1002/ep.12395

Hurdeal, V. G., Gentekaki, E., Hyde, K. D., Nguyen, T. T. T., & Lee, H. B. 2021. Novel Mucor species (Mucromycetes, Mucoraceae) from northern Thailand. *MycKeys* 84) 57–78. <https://doi.org/10.3897/myckeys.84.71530>

Iram, A., Özcan, A., Yatmaz, E., Turhan, İ., & Demirci, A. 2022. Effect of Microparticles on Fungal Fermentation for Fermentation-Based Product Productions. *Processes*, 10 (12), 2681. <https://doi.org/10.3390/pr10122681>

Kamoun, O., Ayadi, I., Guerfali, M., Belghith, H., Gargouri, A. and Trigui-Lahiani, H. 2018. Fusarium verticillioides as a single-cell oil source for biodiesel production and dietary supplements. *Process Safety and Environmental Protection*, 118:68-78. DOI:10.1016/j.psep.2018.06.027

Kowalska A, Tomasz Boruta, Marcin Bizukojć. 2020 Performance of fungal microparticle-enhanced cultivations in stirred tank bioreactors depends on species and number of process stages, *Biochemical Engineering Journal*, Volume 161, 107696, ISSN 1369-703X, <https://doi.org/10.1016/j.bej.2020.107696>.

Kumar I, Xiao L, Hu Z, Zhan X and Shi J. 2013. Microbial lipid production from potato processing wastewater using *oleaginous filamentous fungi Aspergillus oryzae* *Water Res.* 47 3477–83

Laible, A. R., Dinius, A., Schrader, M., Krull, R., Kwade, A., Briesen, H., & Schmideder, S. 2021. Effects and interactions of metal oxides in microparticle-enhanced cultivation of filamentous microorganisms. *Engineering in life sciences*, 22(12), 725–743. <https://doi.org/10.1002/elsc.202100075>

Liao W, Liu Y, Chen S. 2007. Studying pellet formation of a *filamentous fungus*



Rhizopus oryzae to enhance organic acid production. *Appl Biochem Biotechnol* 137-140(1–12):689–701. <https://doi.org/10.1007/s12010-007-9089-4>

Müller, H., Barthel, L., Schmideder, S., Schütze, T., Meyer, V., & Briesen, H. 2022. From spores to fungal pellets: A new high-throughput image analysis highlights the structural development of *Aspergillus niger*. *Biotechnology and bioengineering*, 119(8), 2182–2195. <https://doi.org/10.1002/bit.28124>

Pelczar, M. J. dan Chan, E. C. S. 2005. “Dasar-dasar Mikrobiologi 1”, Alih bahasa: Hadioetomo, R. S., Imas, T., Tjitrosomo, S.S. dan Angka, S. L., UI Press, Jakarta.

Pinasthika, N. P., R. Arbianti, T. S. Utami, and H. Hermansyah. 2017. Effect of 35 medium and incubation time on production of AA, DHA, and EPA from *Aspergillus oryzae* by solid state fermentation. *IOP Conference Series: Earth Environmental Science* (105):012104. doi :10.1088/1755- 1315/105/1/01210

Posch, A. E., Spadiut, O., & Herwig, C. 2012. A novel method for fast and statistically verified morphological characterization of filamentous fungi. *Fungal Genetics and Biology*, 49(7), 499–510.

Ren, X., Xu, Y., Zeng, X., Xusheng, C., Tang, L., & Mao, Z. 2015. Microparticle-enhanced production of ϵ -poly-L-lysine in fed-batch fermentation. *RSC Advances*, 5, 82138-82143. <https://DOI:10.1039/C5RA14319E>

Rossi, M., A. Amaretti, S. Raimondi, and A. Leonardi. 2011. Getting Lipids for Biodiesel Production from *Oleaginous* Fungi. *Biodiesel – Feedstocks & Processing Technologies*. doi: 10.5772/25864

Serrano-Carreón, L., Galindo, E., Rocha-Valadéz, J. A., Holguín-Salas, A., & Corkidi, G. 2015. Hydrodynamics, Fungal Physiology, and Morphology. *Advances in biochemical engineering/biotechnology*, 149, 55–90.https://doi.org/10.1007/10_2015_304

Somashekar, D. & Venkateshwaran, G. & Sambaiah, K. & Lokesh, Belur. 2003. Effect of culture conditions on lipid and gamma-linolenic acid production by mucoraceous fungi. *Process Biochemistry*. 38. [https://doi.org/10.1719-1724.10.1016/S0032-9592\(02\)00258-3](https://doi.org/10.1719-1724.10.1016/S0032-9592(02)00258-3).

Webster, J. & Weber, R. W. S. 2007. *Introduction to Fungi*. 3rd edition. New York: Cambridge University Press

Xia, C., J. Zhang, W. Zhang, and Bo Hu. 2011. A new cultivation method for



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Mucor circinelloides. *Biotechnology for Biofuels* 4(15): 1-10.

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