

DAFTAR PUSTAKA

- Amir, A., Morsy, E. M., and Sedik, M. Z. 2015. Yeasts as a promising tool for microbial oil production. *Middle East Journal of Agriculture*. 4(2): 223 – 231.
- Arous, F., Triantaphyllidou, I. E., Mechichi, T., Azabou, S., Nasri, M., and Aggelis, G. 2015. Lipid accumulation in the new oleaginous yeast *Debaryomyces etchellsii* correlates with ascosporeogenesis. *Biomass and Bioenergy*. 80: 307 – 315.
- Athenaki, M., Gardeli, C., Diamantopoulou, P., Tchakouteu, S. S., Sarris, D., Philippoussis, A., and Papanikolaou, S. 2017. Lipids from yeasts and fungi: physiology, production and analytical considerations. *Journal of Applied Microbiology*. 124: 336 – 367.
- Bannister, C. D., Chuck, C. J., Bounds, M., and Hawley, J. G. 2010. Oxidative stability of biodiesel fuel. *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*. 225: 99 – 114.
- Bardhan, P., Gupta, K., Kishor, S., Chattopadhyay, P., Chaliha, C., Kalita, E., Goud, V. V., and Mandal, M. 2020. Oleaginous yeasts isolated from traditional fermented foods and beverages of Manipur and Mizoram, India, as a potent source of microbial lipids for biodiesel production. *Annals of Microbiology*. 70(27): 1 – 14.
- Bayazit, A. A. 2014. Fungal Lipids: The Biochemistry of Lipid Accumulation. *International Journal of Chemical Engineering and Applications*. 5(5): 409 – 414.
- Bligh, E. G., and Dyer, W. J. 1959. A rapid method of total lipid extraction and purification. *Canadian Journal of Biochemistry and Physiology*. 37(8): 911 – 917.
- British Petroleum. 2022. *bp Statistical Review of World Energy*. 71st Edition. London: BP p.l.c.
- Canesin, E. A., Celestino de Oliveira, C., Matsushita, M., Dias, L. F., Pedrao, M. R., and Evelazio de Souza, N. 2014. Characterization of residual oils for biodiesel production. *Electronic Journal of Biotechnology*. 17: 39 – 45.
- Cao, Y., Liu, W., Xu, X., Zhang, H., Wang, J., and Xian, M. 2014. Production of free monounsaturated fatty acids by metabolically engineered *Escherichia coli*. *Biotechnology for Biofuels*. 7(59): 1 – 11.
- Chattopadhyay, A., Mitra, M., and Maiti, M. K. 2021. Recent advances in lipid metabolic engineering of oleaginous yeasts. *Biotechnology Advances*. 53: 107722.
- Civiero, E., Pintus, M., Ruggeri, C., Tamburini, E., Sollai, F., Sanjust, E., and Zucca, P. 2018. Physiological and Phylogenetic Characterization of *Rhodotorula diobovata* DSBICA06, a Nitrophilous Yeast. *Biology*. 7(39): 1 – 13.
- Donot, F., Fontana, A., Baccou, J. C., Strub, C., and Schorr-Galindo, S. 2014. Single cell oils (SCOs) from oleaginous yeasts and moulds: Production and genetics. *Biomass and Bioenergy*. 68: 135 – 150.

- Evans, C. T., Ratledge, C., Gilbert, S. C. 1985. A rapid screening method for lipid-accumulating yeast using a replica-printing technique. *Journal of Microbiological Method*. 4: 203 – 210.
- Gallagher, J. E. 2006. *Natural Gas Measurement Handbook*. Massachusetts: Elsevier.
- Gientka, I., Gadaszewska, M., Blazejak, S., Kieliszek, M., Bzducha-Wrobel, A., Stasiak-Rozanska, L., and Kot, A. M. 2017a. Evaluation of lipid biosynthesis ability by *Rhodotorula* and *Sporobolomyces* strains in medium with glycerol. *European Food Research and Technology*. 243: 275 – 286.
- Gientka, I., Kieliszek, M., Jermacz, K., and Blazejak, S. 2017b. Identification and characterization of oleaginous yeast isolated from kefir and its ability to accumulate intracellular fats in deproteinated potato wastewater with different carbon sources. *BioMed Research International*. 2017: 1 – 19.
- Ginovart, M., C. Prats., X. Portell, and Silbert, M. 2011. Exploring the lag phase and growth initiation of yeast culture by means of individual-based model. *Food Microbiology*. 28: 810-817.
- Gonçalves, C., Rodriguez-Jasso, R. M., Gomes, N., Teixeira, J. A., and Belo, I. 2010. Adaptation of dinitrosalicylic acid method to microtiter plates. *Analytical Methods*. 2: 2046 – 2048.
- Hage, D. S. 2018. *1- Chromatography*. In: Rifai, N., Horvath, A. R., Wittwer, C. T. 2018. *Principles and Applications of Clinical Mass Spectrometry*. p: 1 – 32.
- Hernández-Almanza, A., Montanez, J. C., Aguilar-González, M. A., Martínez-Ávila, C., Rodríguez-Herrera, R. and Aguilar, C. N. 2014. *Rhodotorula glutinis* as source of pigments and metabolites for food industry. *Food Bioscience*. 5: 64 – 72.
- Himedia. 2021. *HiEncap™ YPD Growth Agar (HiEncap™ YEPD Growth Agar) Technical Data*. [Online] Januari 2021. Tersedia online di: <https://www.himedialabs.com/us/coasstds/index/download/id/ECG038CCL/source/tds/lang/EN> [Diakses: 1 September 2022].
- Ilmi, M., Putri, L. K., Muhamad, A. A. K., Cholishoh, A., and Ardiansyah, S. A. 2019. Use of mung bean sprout (tauge) as alternative fungal growth medium. *Journal of Physics: Conf. Series*. 1241 (2019) 012015.
- Jarvis, G. N., and Thiele, J. H. 1997. Qualitative Rhodamine B assay which uses tallow as a substrate for lipolytic obligately anaerobic bacteria. *Journal of Microbiological Method*. 29: 41 – 47.
- Jiru, T. M., Abate, D., Kiggundu, N., Pohl, C., and Groenewald, M. 2016. Oleaginous yeasts from Ethiopia. *AMB Express*. 6(78): 1 – 11.
- Kanti, A., Sukara, E., Latifah, K., Sukarno, N., and Boundy-Mills, K. 2013. Indonesian oleaginous yeasts isolated from *Piper betle* and *P. nigrum*. *Mycosphere*. 4(5): 1015 – 1026.
- Knittelfelder, O. L., and Kohlwein, S. D. 2017. Derivatization and gas chromatography of fatty acids from yeast. *Cold Spring Harbor Protocols*. 2017(5): 416 – 419.
- Knothe, G. 2005. Dependence of biodiesel fuel properties on the structure of fatty acid alkyl esters. *Fuel Processing Technology*. 86: 1059 – 1070.

- Knothe, G. 2008. “Designer” biodiesel: optimizing fatty ester composition to improve fuel properties. *Energy & Fuels*. 22: 1358 – 1364.
- Kot, A. M., Blažejak, S., Kurcz, A., Gientka, I., and Kieliszek, M. 2016. *Rhodotorula glutinis*—potential source of lipids, carotenoids, and enzymes for use in industries. *Applied Microbiology and Biotechnology*. 100: 6103 – 6117.
- Kot, A. M., Blažejak, S., Kieliszek, M., Gientka, I., and Bryś, J. 2019. Simultaneous production of lipids and carotenoids by the red yeast *Rhodotorula* from waste glycerol fraction and potato wastewater. *Applied Biochemistry and Biotechnology*. 189: 589 – 607.
- Kurtzman, C. P., Fell, J. W., and Boekhout, T. 2011. *The Yeasts: A Taxonomic Study* 5th Edition. Massachusetts: Elsevier.
- Li, Q., Du, W., and Dehua, L. 2008. Perspectives of microbial oils for biodiesel production. *Applied Microbiology Biotechnology*. 80: 749 – 756.
- Mago, N., and Khuller, G. K. 1990. Lipids of *Candida albicans*: subcellular distribution and biosynthesis. *Journal of General Microbiology*. 136: 993 – 996.
- Marchi, E., and Cavalieri D. Yeast as a model to investigate the mitochondrial role in adaptation to dietary fat and calorie surplus. *Genes and Nutrition*. 3: 159 – 166.
- Marova, I., Certik, M., and Breierova, E. 2011. Production of enriched biomass by carotenogenic yeasts—application of whole-cell yeast biomass to production of pigments and other lipid compounds. In: Matovic, M. D. 2011. *Biomass: Detection, Production, and Usage*. London: IntechOpen. p: 345 – 384.
- Marsden, W. L., Gray, P. P., Nippard, G. J., and Quinlan, M. R. 1982. Evaluation of the DNS method for analysing lignocellulosic hydrolysates. *Journal of Chemical Technology and Biotechnology*. 32: 1016 – 1022.
- Maza, D. D., Viñarta, S. C., Su, Y., Guillamón, J. M., and Aybar, M. J. 2020. Growth and lipid production of *Rhodotorula glutinis* R4, in comparison to other oleaginous yeast. *Journal of Biotechnology* 310: 21 – 31.
- Meng, X., Yang, J., Xu, X., Zhang, L., Nie, Q., and Xian, M. 2009. Biodiesel production from oleaginous microorganisms. *Renewable Energy*. 1 - 5
- Mountney, G. J. and Gould, W. A. (1988). *Practical Food Microbiology and Technology*. New York: Van Nostrand Reinhold Company.
- Mubarak, A. E. 2005. Nutritional composition and antinutritional factors of mung bean seeds (*Phaseolus aureus*) as affected by some home traditional processes. *Food Chemistry*. 89: 489 – 495.
- Nancib, N., Branlant, C., and Boudrant, J. 1991. Metabolic roles of peptone and yeast extract for the culture of a recombinant strain of *Escherichia coli*. *Journal of Industrial Microbiology*. 8: 165 – 170.
- Niehus, X., Casas-Godoy, L., Vargas-Sanchez, M., and Sandoval, G. 2018. A fast and simple qualitative method for screening oleaginous yeast on agar. *Journal of Lipids*. 2018: 1 – 8.
- Nurkanto, A. 2009. Cellulolytic activities of *Actinomyces* isolated from soil rhizosphere of Waigeo, Raja Ampat, West Papua. *Jurnal Tanah Tropika*. 14(3): 239 – 244.

- Ortellado, L. E., Lisowiec, L. A., Quiroga-Zingaretti, A. E., Villalba, L. L., Zapata, P. D., and Fonseca, M. I. 2020. Exploring novel *Penicillium* lipolytic activity from the Paranaense rainforest. *Environmental Technology*. 42(27): 4372 – 4379.
- Osman, M. E., Abdel-Razik, A. B., Mamdouh, N., and El-Sayed, H. 2022. Isolation, molecular identification of lipid producing *Rhodotorula diobovata*: optimization of lipid accumulation for biodiesel production. *Journal of Genetic Engineering and Biotechnology*. 20(1): 32 – 47.
- PanReac AppliChem. 2018. *Nitrogen Determination by Kjeldahl Method*. Barcelona: ITW Reagents. p: 4 – 5.
- Park, Y. K., Nicaud, J. M., and Ledesma-Amaro, R. 2018. The engineering potential of *Rhodospiridium toruloides* as a workhorse for biotechnological applications. *Trends in Biotechnology*. 36(3): 304 – 317.
- Patel, A. and Matsakas, L. 2019. A comparative study on *de novo* and *ex novo* lipid fermentation by oleaginous yeast using glucose and sonicated waste cooking oil. *Ultrasonics – Sonochemistry*. 52: 364 – 374.
- Phale, S. 2018. Yeast: Characteristics and economic significance. *Journal of Bioprocessing & Biotechniques*. 8(5): 1 – 3.
- Pinzi, S., Garcia, I. L., Lopez-Gimenez, F. J., Luque de Castro, M. D., Dorado, G., and Dorado, M. P. 2009. The ideal vegetable oil-based biodiesel composition: a review of social, economical and technical implications. *Energy & Fuel*. 23: 2325 – 2341.
- Pinzi, S., Leiva-Candia, D., López-Garcia, I., Redel-Macias, M. D., and Dorado, M. P. 2013. Latest trends in feedstocks for biodiesel production. *Biofuels, Bioproducts, and Biorefining*. 8(1): 126 – 143.
- Pullen, J. and Saeed, K. 2012. An overview of biodiesel oxidation stability. *Renewable and Sustainable Energy Reviews*. 16: 5924 – 5950.
- Qin, L., Liu, L., Zeng, A., and Wei, D. 2017. From low-cost substrates to Single Cell Oils synthesized by oleaginous yeasts. *Biosource Technology*. 245: 1507 – 1519.
- Qu, J., Mao, H. Z., Chen, W., Gao, S. Q., Bai, Y. N., Sun, Y. W., Geng, Y. F., and Ye, J. 2012. Development of marker-free transgenic *Jatropha* plants with increased levels of seed oleic acid. *Biotechnol Biofuels*. 5(1): 10.
- Rakicka, M., Lazar, Z., Dulermo, T., Fickers, P., and Nicaud, J. M. 2015. Lipid production by the oleaginous yeast *Yarrowia lipolytica* using industrial by-products under different culture conditions. *Biotechnology for Biofuels*. 8(104): 1 – 10.
- Rostron, K. A., Rolph, C. E., and Lawrence, C. L. 2015. Nile red fluorescence screening facilitating neutral lipid phenotype determination in budding yeast, *Saccharomyces cerevisiae*, and the fission yeast *Schizosaccharomyces pombe*. *Antonie van Leeuwenhoek*. 108(1): 97 – 106.
- Sáez-Plaza, P., Michałowski, T., Navas, M. J., Asuero, A. G., and Wybraniec, S. 2013. An overview of the kjeldahl method of nitrogen determination. Part i. Early history, chemistry of the procedure, and titrimetric finish. *Critical Reviews in Analytical Chemistry*. 43: 178 – 223.

- Santamauro, F., Whiffin, F. M., Scott, R. J., and Chuck, C. J. 2014. Low-cost lipid production by an oleaginous yeast cultured in non-sterile conditions using model waste resources. *Biotechnology for Biofuels*. 7(34): 1 – 11.
- Santos, J., Leitão-Correia, F., Sousa, M. J., and Leão, C. 2016. Nitrogen and carbon source balance determines longevity, independently of fermentative or respiratory metabolism in the yeast *Saccharomyces cerevisiae*. *Oncotarget*. 7(17): 23033 – 23042.
- Sargeant, L. A., Mardell, M., Saad-Allah, K. M., Hussein, A. H., Whiffin, F., Santomauro, F., and Chuck, C. J. 2015. Production of lipid from depolymerised lignocellulose using the biocontrol yeast, *Rhodotorula minuta*: The fatty acid profile remains stable irrespective of environmental conditions. *European Journal of Lipid Science and Technology*. 118(5): 777 – 787.
- Savage, G. P. 1990. Nutritional value of sprouted mung bean. *Nutrition Today*. 25(3): 21 – 24.
- Signori, L., Ami, D., Poster, R., Giuzzi, A., Mereghetti, P., Porro, D., and Branduardi, P. 2016. Assessing an effective feeding strategy to optimize crude glycerol utilization as sustainable carbon source for lipid accumulation in oleaginous yeasts. *Microbial Cell Factories*. 15(75): 1 – 19.
- Singh, G. P., Volpe, G., Creely, C. M., Grötsch, H., Geli, I. M., and Petrov, D. 2006. The lag phase and G₁ phase of a single yeast cell monitored by Raman microspectroscopy. *Journal of Raman Spectroscopy*. 37: 858 – 864.
- Sitepu, I. R., Garay, L. A., Sestric, R., Levin, D., Block, D. E., German, J. B., and Boundy-Mills, K. L. 2014a. Oleaginous yeasts for biodiesel: Current and future trends in biology and production. *Biotechnology Advances*. 32(7): 1336 – 1360.
- Sitepu, I. R., Jin, M., Fernandez, J. E., Sousa, L. D., Balan, V., and Boundy-Mills, K. L. 2014b. Identification of oleaginous yeast strains able to accumulate high intracellular lipids when cultivated in alkaline pretreated corn stover. *Applied Microbiology and Biotechnology*. 98(17): 7645 – 7657.
- Stanbury, P. F., Whitaker, A., and Hall, S. J. 2016. *Principles of Fermentation Technology*. 3rd Edition. Oxford: Butterworth-Heinemann. p: 21 – 27.
- Tanimura, A., Takashima, M., Sugita, T., Endoh, R., Ohkuma, M., Kishino, S., Ogawa, J., and Shima, J. 2016. Lipid production through simultaneous utilization of glucose, xylose, and l-arabinose by *Pseudozyma hubeiensis*: a comparative screening study. *AMB Express*. 6(58): 1 – 9.
- Tkáčová, J., Čaplová, J., Klempová, T., and Čertík, M. 2017. Correlation between lipid and carotenoid synthesis in torularhodin-producing *Rhodotorula glutinis*. *Annals of Microbiology*. 67: 541 – 551.
- Tsai, S., Yu, H., and Lin, C. 2022. The potential of the oil-producing oleaginous yeast *Rhodotorula mucilaginosa* for sustainable production of bio-oil energy. *Processes*. 10(336): 1 – 12.
- Uemura, H. 2012. Synthesis and production of unsaturated and polyunsaturated fatty acids in yeast: current state and perspective. *Applied Microbiology and Biotechnology*. 95: 1 – 12.

- Viñarta, S. C., Angelicola, M. V., Barros, J. M., Fernández, P. M., Aybar, M. J., and Figueroa, L. C. C. 2016. Oleaginous yeasts from Antarctica: Screening and preliminary approach on lipid accumulation. *Journal of Basic Microbiology*. 56: 1 – 9.
- Wirth, F. and Goldani, L. Z. 2012. Epidemiology of *Rhodotorula*: An emerging pathogen. *Interdisciplinary Perspectives on Infectious Diseases*: 465717.
- Wongsiri, S., Ohshima, T., and Duangmal, K. 2014. Chemical composition, amino acid profile and antioxidant activities of germinated mung beans (*Vigna radiata*). *Journal of Food Processing and Preservation*. 39(6): 1956 – 1964.
- Yousuf, A., Khan, M. R., Islam, M. A., Wahid, Z. A., and Pirozzi, D. 2017. Technical difficulties and solutions of direct transesterification process of microbial oil for biodiesel synthesis. *Biotechnology Letters*. 39: 13 – 23.