

DAFTAR PUSTAKA

- Amborabe, B.E., J. Bonmort, P.F. Lessard & G. Roblin. 2008. Early events induced by chitosan on plant cells. *Journal of Experimental Botany*, **59**(9): 2317-2318.
- Anwar, K., B. Rahmanto, L. Triyasmono, M.I. Rizki, W. Halwany & F. Lestari. 2017. The Influence Of Leaf Age On Total Phenolic, Flavonoids, And Free Radical Scavenging Capacity Of *Aquilaria beccariana*. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, **8**(1): 130-131.
- Azizan, M. N. A. B., & Risda, 2015. The Effect of BAP and NAA Treatment on Micropropagation of *Cucumis sativus* L. *International Journal of Science and Research*, **6**(11): 171-172.
- Boncan, D.A.T., S.S.K. Tsang, C. Li, I.H.T. Lee, H.M. Lam, T.F. Chan & J.H.L. Hui. 2020. Terpenes and Terpenoids in Plants: Interactions with Environment and Insects. *International journal of Molecular Sciences*, **21**(7382): 1-3.
- Buddhapriya, A.N. & W.T.P.S.K. Senarath. 2016. In Vitro Micropropagation of *Gyrinops walla* (GAERTH.) Using Leaf Disc Explants. *Proceedings Of 1st International Conference On Bioscience And Biotechnology*, **1**: 12-13.
- Chandran, H., M. Meena, T. Barupal & K. Sharma. 2020. Plant tissue culture as a perpetual source for production of industrially important bioactive compounds. *Biotechnology Reports*: 2-12.
- Chong, S.P., M.F. Osman, N. Bahari, E.A. Nuri, R. Zakaria & K.A. Rahim. 2015. Agarwood Inducement Technology: A Method for Producing Oil Grade Agarwood in Cultivated *Aquilaria malaccensis* Lamk. *Journal Agrotechnology*, **6**: 9-10.
- CITES. 2017. *Convention on International Trade in Endangered Species of Wild Fauna And Flora Appendices I II and III*. <https://cites.org/sites/default/files/notif/E-Notif-2016-068-A.pdf>. Diakses 2 Maret 2021 pukul 19.44.
- Dhivya, S. M., & K. Kalaichelvi. 2017. Screening Of Primary And Secondary Metabolites, UV-Vis Spectrum And FTIR, Analysis Of *Acmella calva* (DC.) R.K. Jansen. *Carmona retusa* Vahl. and *Leptadenia reticulata* W.& A, *IJRSR*, **8**(6): 17952-17954.
- Dwiyani, R. 2015. *Kultur Jaringan Tanaman*. Bali: Pelawa Sari, 31-45.
- Efferth, T. 2019. Biotechnology Applications of Plant Callus Cultures. *Engineering*, **5**: 50-51.
- Ernawati, E. Suprayitno, Hardoko, & U. Yanuar. 2019. Extraction of bioactive compounds fruit from *Rhizophora mucronata* using sonication method. *The 1st International Conference on Fisheries and Marine Science, IOP Conf. Series: Earth and Environmental Science*, **236**: 4-5.
- Fan, G., X. Li, X. Wang, Q. Zhai, & Y. Zhan. 2010. Chitosan activates defense responses and triterpenoid production in cell suspension cultures of *Betula platyphylla* Suk. *African Journal of Biotechnology*, **9**(19): 2816-2819.
- Giacometti, J., G. Zauhar, & M. Zuvic. 2018. Optimization of Ultrasonic-Assisted Extraction of Major Phenolic Compounds from Olive Leaves (*Olea europaea* L.) Using Response Surface Methodology. *Foods*, **7**: 1-3.

- Hadrami, A.E., L.R. Adam, I.E. Hadrami & F. Daay. 2010. Chitosan in Plant Protection. *Marine drugs*, **8**(4): 968-970.
- Hendriyani, E., T. Warseno, & N. K. E. Undaharta. 2020. Pengaruh Jenis Eksplan Dan Kombinasi Zat Pengatur Tumbuh (ZPT) Terhadap Induksi Kalus *Begonia bimaensis* Undaharta & Ardaka Secara In Vitro. *Buletin Kebun Raya*, **23**(1): 82–90.
- Hussain, S. Z., & K. Maqbool. 2014. GC-MS: Principle, Technique and its application in Food Science. *International Journal Current Science*, **13**: 116-117.
- Ianatushshoimah, Y. Nurchayati, E. Prihastani, & R. B. Hastuti, 2020. Effects of Light for Callus Induction of Mangrove Plant (*Rhizophora Apiculata* Bi) by In Vitro. *Life Science*, **9**(2): 139-141.
- ITIS. 2011. *Gyrinops versteegii*. https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=845834#null. Diakses 4 Maret 2021 pukul 9.00.
- Jain, P.K., A. Soni, P. Jain & J. Bhawsar. 2016. Phytochemical analysis of *Mentha spicata* plant extract using UV-VIS, FTIR and GC/MS technique. *Journal of Chemical and Pharmaceutical Research*, **8**(2): 2-4.
- Jayaraman, S., N.H. Daud, R. Halis & R. Mohamed. 2014. Effects of plant growth regulators, carbon sources and pH values on callus induction in *Aquilaria malaccensis* leaf explants and characteristics of the resultant calli. *Journal of Forestry Research*, **25**(3): 536-538.
- Khana T., T. Khana, C. Hanob & B.H. Abbasi. 2019. Effects of chitosan and salicylic acid on the production of pharmaco attractive secondary metabolites in callus cultures of *Fagonia indica*. *Industrial Crops & Products*: 525-527.
- Kim, H.J., F. Chen, X. Wang & N.C. Rajapakses. 2005. Effect of Chitosan on the Biological Properties of Sweet Basil (*Ocimum basilicum* L.). *Journal argiculture food chem*, **53**(9): 3696-3700.
- Listiana, B. E., Sumarjan, U. Schurr, & T. Mulyaningsih. 2018. In Vitro Regeneration Of Agarwood Plant (*Aquilaria filarial*). *3rd International Conference on Science and Technology*: 187-188.
- Malerba, M., & R. Cerana. 2016. Chitosan Effects on Plant Systems. *International Journal of Molecular Sciences*. **17**(996): 1-4.
- Marisa, F. 2021. Induksi Pembentukan Terpenoid pada Gaharu (*Gyrinops versteegii* (Gilg.) Domke) Secara In Vitro; 40-71.
- Maslowski, M., J. Miedzianowska, A. Czyłkowska, M. E. Szmechtyk, A. Nowak, & K. Strzelec. 2020. Anti-Oxidative Activity of Alcohol-Water Extracts from Field Horsetail (*Equisteum arvense*) in Elastomer Vulcanizates Subjected to Accelerated Aging Processes. *Materials*, **13**: 7-8.
- Meira, C. L. C., C. G. Novaes, F. C. Novais, V. S. Jesus, D. M. Oliveira, & R. M. Aguiar. 2020. Application of principal component analysis for the evaluation of the chemical constituents of *Mimosa tenuiflora* methanolic extract by DLLME/GC–MS. *Microchemical Journal*, **152**: 104284-104285.
- Millaty I.N.K., N. Wijayanti, L. Hidayati & T.R. Nuringtyas. 2020. Identification of anticancer compounds in leaves extracts of agarwood (*Aquilaria malaccensis* (Lamk.)). *IOP Conf. Series: Earth and Environmental Science*, **457**: 1-2.

- Nasution, A.A., U.J. Siregar, Miftahudin & M. Turjaman. 2019. Identification of chemical compounds in agarwood-producing species *Aquilaria malaccensis* and *Gyrinops versteegii*. *Journal of Forestry Research*, **28**(3): 1-2.
- Nge, K. L., N. Nwe, S. Chandkrachang, & W. F. Steven. 2006. Chitosan as a growth stimulator in orchid tissue culture. *Plant Science*, **170**: 1185-1186.
- Nugroho, K., R. T. Terrayana, H. Rijzaani, & P. Lestari. 2016. Metode Ekstraksi DNA pada *Jatropha* spp. tanpa Menggunakan Nitrogen Cair. *Jurnal Littri*, **22**(4): 159-160.
- Nugroho, K., R. T. Terrayana, Reflinur, & P. Lestari. 2019. Metode Ekstraksi DNA Tanaman Tanpa Presipitasi Etanol Untuk Kegiatan Polymerase Chain Reaction (PCR). *Bioteknologi dan Biosains Indonesia*, **6**(1): 32-33.
- Nuringtyasa, T.R., R. Isromarina, Y. Septia, L. Hidayati, N. Wijayanti & S. Moeljopawiro. 2018. The antioxidant and cytotoxic activities of the chloroform extract of agarwood (*Gyrinops versteegii* (Gilg.) Domke) leaves on HeLa cell lines. *AIP Conference Proceedings*, **2002**(020067): 1-2.
- Pagare, S., M. Bhatia, N. Tripathi, S. Pagare & Y.K. Bansal. 2015. Secondary Metabolites of Plants and their Role: Overview. *Current Trends in Biotechnology and Pharmacy*, **9**(3): 294-295.
- Parwata, A., P. Manuaba & S. Yasa. 2018. The Potency of Flavonoid Compounds in water Extract *Gyrinops Versteegii* Leaves as Natural Antioxidants Sources. *Biomedical & Pharmacology Journal*, **11**(3): 1502-1503.
- Patel, H. & R. Krishnamurthy. 2013. Elicitors in Plant Tissue Culture. *Journal of Pharmacognosy and Phytochemistry*, **2**(2): 60-62.
- Prihantini, A.I. & K.D. Rizqiani. 2019. Various antioxidant assays of agarwood extracts (*Gyrinops versteegii*) from West Lombok, West Nusa Tenggara, Indonesia. *Asian Journal of Agriculture*, **3**(1): 1-2.
- Rabea, E. I., M. E. T. Badawy, C. V. Stevens, G. Smagghe, & W. Steurbaut. 2003. Chitosan as Antimicrobial Agent: Applications and Mode of Action. *American Chemical Society*, **4**(6): 1457-1458.
- Rajesh, K.D., V. Subramanian, A. Panneerselvam, N. V. Rajesh, & N. Jeyathilakan. 2016. GC-MS Analysis of Secondary Metabolites from The Whole Plant Methanolic Extract of *Drynaria quercifolia* (L) J. Smith. *Journal of Advanced Applied Scientific Research*, 84-89.
- Rawana, S. Hardiwinoto, Budiadi, & S. Rahayu, 2018. Vegetation Community and Environment on *Gyrinops versteegii* Growth. *Jurnal Manajemen Hutan Tropika*, **23**(1): 10-11.
- Renjini, A., & D. Dileep. 2017. Spectrophotometry and Spectrometry - Concept and Applications. *Ijariie*, **2**(4): 96-98.
- Sahil, K., B. Prashant, M. Akanksha, S. Premjeet, R. Devashish. 2011. Gas Chromatography-Mass Spectrometry: Applications. *International Journal of Pharmaceutical & Biological Archives*, **2**(6):1544-1546.
- Saikia, M.,K. Shrivastava, & S. S. Singh. 2013. Effect of Culture Media and Growth Hormone on Callus Induction in *Aquilaria malaccensis* Lam., a Medicinally and Commercially Important Tree Species of North East India. *Asian Journal of Biological Sciences*, **6**(2): 98-99.
- Sam, S. 2019. Importance and effectiveness of herbal medicines. *Journal of Pharmacognosy and Phytochemistry*, **8**(2): 354-355.

- Sari, E. M., Suwirmen, & Z. A. Noli. 2014. Pengaruh Penggunaan Fungisida (Dithane M-45 Terhadap Pertumbuhan Tanaman Jagung (*Zea mays* L.) dan Kepadatan Spora Fungi Mikoriza Arbuskula (FMA). *Jurnal Biologi Universitas Andalas*, **3**(3): 188.
- Sathiyabama, M., N. Bernstein, & S. Anusuya. 2016. Chitosan elicitation for increased curcumin production and stimulation of defence response in turmeric (*Curcuma longa* L.). *Industrial Crops and Products*, **89**: 88-89.
- Satria, M. T., Neliyati, & Jasminarni. 2019. Pengaruh Zat Pengatur Tumbuh 2,4-D (Dichlorophenoxyacetid- Acid) Dan Kinetin Terhadap Induksi Kalus Dari Eksplan Daun Kayu Manis (*Cinnamomum Burmannii*). *Jurnal Agroecotenia*, **2**(1): 47-48.
- Siddique, A. B., & S. M. S. Islam. 2015. Effect Of Light And Dark On Callus Induction And Regeneration In Tobacco (*Nicotiana tabacum* L.). *Bangladesh Journal of Botany*, **44**(4): 643-645.
- Souza, M., J. J. Comin, R. Moresco, M. Maraschin, C. Kurtz, P. E. Lovato, C. R. Lourenzi, F. K. Pilatti, A. Loss, & S. Kuhn. 2021. Exploratory and discriminant analysis of plant phenolic profiles obtained by UV-vis scanning spectroscopy. *Journal of Integrative Bioinformatics*, **18**(3): 1-3.
- Sukenti, K. & T. Mulyaningsih. 2019. Gaharu (*Gyrinops versteegii* (Gilg.) Domke) di Pulau Sumbawa: Sebuah Tinjauan Etnobotani. *BioWallacea Jurnal Ilmiah Ilmu Biologi*, **5**(2): 62-63.
- Susilo, A., T. Kalima & E. Santoso. 2014. *Panduan Lapangan Pengenalan Jenis Pohon Penghasil Gaharu Gyrinops spp. di Indonesia*. Bogor. IPB Press, 1-27.
- Tan, H., M. Tie, L. Zhang, Y. Zhu, & H. Li. 2013. The effects of three different grinding methods in DNA extraction of cowpea (*Vigna unguiculata* L. Walp). *African Journal of Biotechnology*, **12**(16): 1946-1947.
- Triadiati, T., D.A. Carolina & Miftahudin. 2016. Induksi Pembentukan Gaharu Menggunakan Berbagai Media Tanam Dan Cendawan *Acremonium* Sp. dan *Fusarium* Sp. pada *Aquilaria crassna*. *Jurnal Sumberdaya Hayati*, **2**(1): 2-3.
- Utomo, A. R., Nandariyah, & A. Yunus. 2021. The effect of Murashige and Skoog (MS) and Growmore fertilizer media composition on growth of Ambon banana plants in vitro. *The 7th International Conference on Sustainable Agriculture and Environment, IOP Conf. Series: Earth and Environmental Science*, **637**: 1-2.
- Vanda, G. F., L. Shabani, & R. Razavizadeh. 2019. Chitosan enhances rosmarinic acid production in shoot cultures of *Melissa officinalis* L. through the induction of methyl jasmonate. *Botanical Studies*, **60**(26): 1-3.
- Wahyuni, R., & A. I. Prihantini. 2020. The Best Inoculation Technique Applied on *Gyrinops versteegii* Tree Trunk. *Journal of Biology & Biology Education*, **12**(2): 235-236.
- Wangiyana, I.G.A.S., Akram & F. Isbulloh. 2020. Perbandingan Aktivitas Antibakteri Ekstrak Kasar Resin dan Daun Gaharu (*Gyrinops versteegii*). *Jurnal Bioteknologi & Biosains Indonesia*, **7**(1): 30.
- Wardana, T.A.P., T.R. Nuringtyas, N. Wijayanti & L. Hidayati. 2019. Phytochemical Analysis of Agarwood (*Gyrinops versteegii* (Gilg.) Domke) Leaves Extracts as Anticancer using GC-MS. *AIP Conference Proceedings*, **2194**(020136): 1-4.

- Wijaya, R., R. Restiani, & D. A. Arini. 2020. Pengaruh Kitosan terhadap Produksi Saponin Kultur Kalus Daun Ginseng Jawa (*Talinum paniculatum* (Jacq.) Gaertn.). *Prosiding Seminar Nasional Biologi di Era Pandemi COVID-19*: 255-261.
- Yunita, E., D. Yulianto, S. Fatimah, & T. Firanita. 2020. Validation of UV-Vis Spectrophotometric Method of Quercetin in Ethanol Extract of Tamarind Leaf. *Journal of Fundamental and Applied Pharmaceutical Science*, **1**(1): 13-14.
- Zakaria, F., B. A. Talip, E. E. M. Kahar, N. Muhammad, N. Abdullah, & H. Basri. 2020. Solvent Used in Extraction Process of Agarwood, A Systematic Review. *Food Research*, **4**(3): 731-733.
- Zakaria, R. A., B. M. Zanjani, & E. Sedghi. 2009. Effect of in vitro chitosan application on growth and minituber yield of *Solanum tuberosum* L.. *Plant Soil Environ*, **55**(6): 252.
- Zhang, C. H., P. S. Fevereiro, G. He, & Z. Chen. 2007. Enhanced paclitaxel productivity and release capacity of *Taxus chinensis* cell suspension cultures adapted to chitosan. *Plant Science*, **172**: 158-159.