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DAFTAR PUSTAKA

Akhtar, N.A.H.I.D., Wani, A.K., Mir, T.U.G., Kumar, N.A.V.N.E.E.T. and Mannan, M.A.U. 2021. *Sapindus Mukorossi*: Ethnomedicinal uses, phytochemistry, and pharmacological activities. *Plant Cell Biotechnol. Mol. Biol*, 22: 300-319.

Alamgir, A.N.M. 2018. Secondary metabolites: secondary metabolic products consisting of C and H; C, H, and O; N, S, and P elements; and O/N heterocycles. *Prog. Drug Res.*, 74: 165–309.

Almeida, V.P., Raman, V., Raeski, P., Urban, A., Swiech, J., Miguel, M. and Budel, J. 2020. Anatomy, Micromorphology, and Histochemistry of Leaves and Stems of *Cantinoa althaeifolia* (Lamiaceae). *Microscopy Research and Technique*, 83(5): 551-557.

Ambardini, S., Ratnaeni, and Indrawati. 2015. Karakter Trikoma Daun Tanaman Jati (*Tectona grandis* L.) Yang Ditanam Pada Tanah Pascatambang Emas Bombana Dengan Variasi Dosis Pupuk Kandang Kambing. *Biowallacea*, 2(1): 113-125.

Anam, M.K. 2019. *Karakter Trikoma Tumbuhan Waru (Talipariti tiliaceum) Pada Ketinggian Tempat Berbeda di Kabupaten Jember Sebagai Buku Ilmiah Populer*. Jember: Digital Repository Universitas Jember: 1-89.

Andrew, R. and Izzo, A.A. 2017. Principles of pharmacological research of nutraceuticals. *Br. J. Pharmacol.*, 174: 1177.

Andriya, N. 2016. Analisis Struktur Anatomi dn Histokimia Tiga Varietas Kumis kucing (*Orthosiphon aristatus* (Blume) Miq) (Skripsi), Bogor: Institut Pertanian Bogor: 1-34.

Anggraeni, D.N. 2018. Analisis Penerimaan dan Pemanfaatan Dana Bagi Hasil Cukai Hasil Tembakau dan Dana Bagi Hasil Pajak Rokok (Studi Kasus pada 38 Kabupaten/Kota di Provinsi Jawa Timur Tahun 2014-2016. *Jurnal Ilmiah Mahasiswa FEB*, 7(1): 1-102.

Ardhiarisca, O., Muspita, M. and Kustiasari, T. 2015. Analisis Faktor Internal dan Eksternal yang Mempengaruhi Pengembangan Agribisnis Tembakau di Kabupaten Jember. *Jurnal Ilmiah Inovasi*, 15(3): 62-65.

Ayers, J.T., Xu, R., Dwoskin, L.P. and Crooks, P.A. 2005. A general procedure for the enantioselective synthesis of the minor tobacco alkaloids nornikotin, anabasin, and anatabine. *AAPS J.*, 7(3): 752-758.

Ayil-Gutiérrez, B.A., Sánchez-Teyer, L.F., Vazquez-Flota, F., Monforte-González, M., Tamayo-Ordóñez, Y., Tamayo-Ordóñez, M.C. and Rivera, G. 2018. Biological effects of natural products against *Spodoptera* spp. *Crop Protection*, 114: 195-207.

Azlina, R. and Iriani, D. 2024. Analisis Struktur Anatomi dan Histokimia Daun Buah Makasar (*Brucea javanica* (L.) Merr.). *Buletin Anatomi dan Fisiologi*, 9(2): 137-147.

Bantho, S., Naidoo, Y., Dewir, Y.H. and Singh, M. 2023. A Review on The Secretory Structures, Bioactive Compounds and Biological Activities of Selected *Combretum* Species. *South African Journal of Botany*, 158: 18-30.

Basu, S., Ramegowda, V., Kumar, A. and Pereira, A. 2016. Plant Adaptation to Drought Stress. *F1000Research*: 1-10.

Batoro, J. and Ekowati, G. 2017. An Ethnobotanical Tobacco (*N. tabacum* L.) in

UNIVERSITAS
GADJAH MADA
Profil Alkaloid dan Jaringan Sekretori Tembakau (Nicotiana tabacum L. var. Manilo) pada Cekaman Kekeringan dan Penambahan Nitrogen
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Indonesia. a review. *Advances in Life Sciences*, 7(2): 26-29.

Bhavadharaniparkawi, K. and Abirami, P. 2022. Histochemichal Investigation and Localization of Secondary Metabolites of *Acalypha paniculata* Miq. *International Journal of Pharmaceutical Sciences Review and Research*, 72(1): 80-89.

Burling, K., Cerovic, Z.G., Cornic, G., Ducruet, J.M., Noga, G. and Hunsche, M. 2013. Fluorescence-based sensing of drought-induced stress in the vegetative phase Of four contrasting wheat genotypes. *Environ. Exp. Bot.*, 89: 51–59.

Cahyono, E., Hindun, I., Rahardjanto, A. and Nurrohman, E. 2022. Exploration characteristics of trichomes shading plant at Melati Bungur Park Malang City. *Jurnal Pembelajaran Dan Biologi Nukleus*, *8*(2): 459-469.

Cambaba, S. 2015. Karakter Anatomis daun Kedelai (*Glycine max* (L.) Merril) 'Grobogan' Hasil Perlakuan Kekeringan dan Mulsa Jerami. *Prosiding Seminar Nasional*, 2(1): 881-896.

Chauhan, A. and Chauhan, P. 2014. Powder XRD technique and its applications in science and technology. *J Anal Bioanal Tech*, 5(5): 1-5.

Darmapatni, K.A.G., Basori, A. and Suaniti, N.M. 2016. Pengembangan metode GC-MS untuk penetapan kadar acetaminophen pada spesimen rambut manusia. *Jurnal Biosains Pascasarjana*, 18(3): 255-269.

Demena, W.K., Raunsay, E.K. and Aisoi, L.E. 2024. Bentuk Trikoma (Urticaceae) dan Pemanfaatan dalam Pengobatan Tradisional pada Masyarakat Tablasupa Distrik Depapre Kabupaten Jayapura. *Biota: Jurnal Ilmiah Ilmu-Ilmu Hayati*: 290-305.

Ding, L., Lu, Z., Gao, L., Guo, S. and Shen, Q. 2018. Is nitrogen a key determinant of water transport and photosynthesis in higher plants upon drought stress?. *Frontiers in plant science*, *9*: 1-12.

Du, Y., Zhao, Q., Chen, L., Yao, X. and Xie, F. 2020. Effect of Drought Stress at Reproductive Stages on Growth and Nitrogen Metabolism in Soybean. *Agronomy*, 10(2): 1-21.

Feller, U. 2016. Drought stress and carbon assimilation in a warming climate: Reversible and irreversible impacts. *Journal of plant physiology*, 203: 84-94.

Feller, U., Anders, I. and Wei, S. 2015. Effects of PEG-induced water deficit in *solanum nigrum* on Zn and Ni uptake and translocation in split root systems. *Plants*, 4: 284–297.

Fu, Q., Yang, S.R.C., Wang, H.S., Zhao, B., Zhou, C.L., Ren, S.X. and Guo, Y.D. 2013. Leaf Morphological and Ultrastructural Performance of Eggplant (*Solanum melongena* L.) in Response to Water Stress. *International Journal for Photosynthesis Research*, 51(1): 109-114.

Gartina, D. and Sukriya, R.L.L. 2018. *Statistik Perkebunan Indonesia 2018-2020*. Jakarta. Direktorat Jenderal Perkebunan: 8.

Gullón, B., Lú-Chau, T.A., Moreira, M.T., Lema, J.M. and Eibes, G. 2017. Rutin: a review on extraction, identification and purification methods, biological activities and approaches to enhance its bioavailability. *Trends Food Sci. Technol.*, 67: 220–235.

Guo, X., Liu, H., Ngosong, C., Li, B., Wang, Q., Zhou, W., and Nie, M. 2022.

UNIVERSITAS
GADJAH MADA
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Response of plant functional traits to nitrogen enrichment under climate change: a meta-analysis. *Sci. Total Environ.*, 834: 1-10.

Hamida, R., Murianingrum, M. and Djumali, D. 2020. Stabilitas Hasil Dan Adaptabilitas Kultivar Tembakau Magetan Menggunakan Metode Eberhart Russel. *Jurnal Agrotek Tropika*, 8(2): 337-346.

Handlovic, T.T., Wahab, M.F., Glass, B.C. and Armstrong, D.W. 2024. On the greenness of separation modes containing compressed fluids. *Analytica Chimica Acta*, 1330: 1-9.

Jimenez-Herrera, R,, Pacheco-Lopez, B., Peragon, J. 2019. Water stress, irrigation, and concentrations of pentacyclic triterpenes and phenols in Olea europaea L. cv. Picual olive trees. *Antioxidants*. 8(294): 1-14.

Karabourniotis, G., Liakopoulos, G., Nikolopoulos, D. and Bresta, P. 2020. Protective and defensive roles of non-glandular trichomes against multiple stresses: structure–function coordination. *Journal of Forestry Research*, 31(1): 1-12.

Karubuy, C.N.S., Rahmadaniarti, A. and Wanggai, J. 2018. Karakteristik Stomata dan Kandungan Klorofil Daun Anakan Kayu Cina (*Sundacarpus amarus* (Blume) C. N. Page) Pada Beberapa Intensitas Naungan. *Jurnal Kehutanan Papuasia*, 4(1): 45-56.

Kishore, K. 2014. Monograph of Tobacco (*Nicotiana tabaccum*). *Indian Journal of Drugs*, 2(1): 5-23.

Knutti, R., Rogelj, J., Sedlacek, J., Fischer, E.M. 2016. A scientific critique of the two-degree climate change target. *Nature Geosci*. 9: 13–19.

Kumar, M., Patel, M., Kumar, N., Bajpai, A.B. and Siddique, K.H.M. 2021. Metabolomics and Molecular Approaches Reveal Drought Stress Tolerance in Plants. *International Journal of Molecular Science*, 22(9108): 1-23.

Leal, M., Moreno, M.A., Albornoz, P.L., Mercado, M.I., Zampini, I.C. and Isla, M.I. 2023. Morphological characterization of *N. tabacum* inflorescences and chemical-functional analysis of extracts obtained from its powder by using green solvents (NaDESs). *Plants*, 12(7): 1554.

Martono, E. and Trisyono, A. 2012. Pengaruh Ekstrak Limbah Daun Tembakau Madura Terhadap Aktivitas Makan Larva *Spodoptera exigua*. *Biosaintifika: Journal of Biology & Biology Education*, 4(1): 1-9.

Mashud, N. and Octavia, F. 2015. Karakteristik Fisiologi Daun Aren Varietas Akel Toumuung. *Buletin Palma*, 16(1): 49-56.

Matsuura, H.N. and Fett-Netto, A.G. 2015. Plant Alkaloids: Main Features, Toxicity, and Mechanisms of Action. *Plant Toxic*: 1–15.

Minarno, E.B. and Khoiriyah, I. 2011. Ketahanan Galur Kedelai (*Glycine max* L.) terhadap Serangan Ulat Grayak (*Spodoptera litura* F.) Berdasarkan Karakteristik Trikoma. *El-Hayah: Jurnal Biologi*, 2(1): 7-14.

Mukherjee, S., Mishra, A. and Trenberth, K.E. 2018. Climate change and drought: a perspective on drought indices. *Current climate change reports*, *4*: 145-163.

Muravnik, L.E., Kostina, O.V. and Mosina, A.A. 2025. Morphology, histochemistry and ultrastructure of the floral glandular trichomes in three Doronicum species (Asteraceae). *Protoplasma*: 1-22.

Nugroho, L.H. 2017. *Struktur dan Produk Jaringan Sekretori Tumbuhan*.

UNIVERSITAS
GADJAH MADA
Profil Alkaloid dan Jaringan Sekretori Tembakau (Nicotiana tabacum L. var. Manilo) pada Cekaman Kekeringan dan Penambahan Nitrogen
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Yogyakarta, Gadjah Mada University Press: 174-177.

Nurcahyani, D.D. 2018. Respon Fisiogenetik Tanaman Tembakau (*N. tabacum* L.) Terhadap Cekaman Genangan Periodik (Doctoral dissertation, Institut Teknologi Sepuluh Nopember): 6.

Pagare, S., Bhatia, M., Tripathi, N., Pagare, S. and Bansal, Y.K. 2015. Secondary Metabolites of Plants and their Role: Overview. *Current Trends in Biotechnology and Pharmacy*, *9*(3): 293–304.

Pratiwi, D.R., Sulistyaningsih, Y.C. and Ratnadewi, D. 2020. Localization of alkaloid and other secondary metabolites in *Cinchona ledgeriana* Moens: Anatomical and histochemical studies on fresh tissues and cultured cells. *HAYATI Journal of Biosciences*, *27*(1): 1-7.

Putri, D.A., Solihah, R., Oktavia, R., Anggraini, D.A. and Fatmawati, S. 2022. Secondary Metabolites of *N. tabacum* and Their Biological Activities: A Review. *Journalof Pure & Applied Chemistry Research*, *11*(2): 149-165.

Raal, A., Meos, A., Hinrikus, T., Heinämäki, J., Romāne, E., Gudienė, V., Koshovyi, O., Kovaleva, A., Fursenco, C., Chiru, T. and Nguyen, H.T. 2020. Dragendorff's reagent: Historical perspectives and current status of a versatile reagent introduced over 150 years ago at the University of Dorpat, Tartu, Estonia. *Die Pharmazie-An International Journal of Pharmaceutical Sciences*, 75(7): 299-306.

Reynolds-Henne, C.E., Langenegger, A., Mani, J., Schenk, N., Zumsteg, A., Feller, U. 2010. Interactions between temperature, drought and stomatal opening in legumes. *Environ. Exp. Bot,* 68: 37–43.

Sabila, N., S. Kusmardiyani. & M. Insanu. 2022. Histochemical Analysis of The Leaves of Four Ericales Medicinal Plants. *Actra Pharmaceutica Indonesia*, 47 (1): 9-18.

Santoso, A.D. & P. Purnomo. 2021. Variation and Phenetic Relationship of Tobacco (*N. tabacum* L.) In Central Java and Yogyakarta Based on Morphological Characters. *Jurnal Riset Biologi dan Aplikasinya*, 3(2): 73-79.

Scoffoni, C., Vuong, C., Diep, S., Cochard, H., Sack, L. 2014. Leaf shrinkage with dehydration: coordination with hydraulic vulnerability and drought tolerance. *Plant Physiol*, 164: 1772–1788.

Seager, R., Kushnir, Y., Ting, M., Cane, M., Naik, N., Miller, J. 2008. Would advance knowledge of 1930s SSTs have allowed prediction of the dust bowl drought? *J Clim*, 21: 3261–3281.

Selwal, N., Tabassum, Z., Rahayu, F., Yulia, N. D., Sugiono, S., Endarto, O., Riajaya, D., Djajadi, D., Khamidahe, A., & Wani, A. K. 2023. Therapeutic potential and phytoremediation capabilities of the tobacco plant: Advancements through genetic engineering and cultivation techniques. *Biocatalysis and Agricultural Biotechnology*, 52: 1-12.

Sun, B., Tian, Y.X., Zhang, F., Chen, Q., Zhang, Y., Luo, Y., Wang, X.R., Lin, F.C., Yang, J. and Tang, H.R. 2018. Variations of alkaloid accumulation and gene transcription in *N. tabacum*. *Biomolecules*, 8(4): 114.

Tang, Z., Chen, L., Chen, Z., Fu, Y., Sun, X., Wang, B., Xia, T. 2020. Climatic factors determine the yield and quality of Honghe flue-cured tobacco. *Sci. Rep,* 101 (10): 1–12.

UNIVERSITAS
GADJAH MADA
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Thirumurugan, D., Cholarajan, A., Raja, S. & Vijayakumar, R. 2018. An Introdustory Chapter:Secondary Metabolites. *IntechOpen*, 79766: 3-21.

Utari, D. dan Slamet. 2019. Keragaan Karakter Kuantitatif dan Produksi Tembakau Lokal di Kabupaten Jombang. Prosiding Temu Teknis Jabatan Fungsional Non Peneliti. Malang: 143-148.

Xu, Z.Z., Jiang, Y.L., Zhou, G.S. 2015. Response and adaptation of photosynthesis, respiration, and antioxidant systems to elevated CO2 with environmental stress in plants. *Front. Plant Sci*, 6: 701.

Yang, X., Lu, M., Wang, Y., Wang, Y., Liu, Z., Chen, S. 2021. Response Mechanism of Plants to Drought Stress. *Horticulturae*, 7(3): 1-36.

Yuliani, Evilia, dan Ratnawati, 2018. Studi Keanekaragaman Struktur dan Kepadatan Trikoma Glandular pada Beberapa Tanaman Obat. *Jurnal Prodi Biologi*, 7(5): 262-268.

Yuliany, E.H., Sarno, dan Hanum, L. 2021. Studi Trikoma Daun Tumbuhan Peneduh Sebagai Sumber Belajar Biologi. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*; 5(2): 93-103.

Zhang, W., Pan, X., Fu, J., Cheng, W., Lin, H., Zhang, W and Huang, Z. 2024. Phytochemicals Derived from *N. tabacum* L. Plant Contribute to Pharmaceutical Development. *Front. Pharmacol*, 15: 1-19.