

## DAFTAR PUSTAKA

- Al-Farraj, A. S., & Al-Wabel, M. I. (2007). Heavy metals accumulation of some plant species grown on mining area at Mahad AD'Dahab, Saudi Arabia. In *Journal of Applied Sciences* (Vol. 7, Issue 8, pp. 1170–1175). <https://doi.org/10.3923/jas.2007.1170.1175>
- Al-Saadi, M., Al-Asaadi, M., & Al-Waheeb, H. (2013). The Effect of Some Heavy Metals Accumulation on Physiological and Anatomical Characteristic of Some *Potamogeton* L. Plant. *Journal of Ecology and Environmental Sciences*, 4(1), 100–108.
- Alejandro, S., Lee, Y., Tohge, T., Sudre, D., Osorio, S., Park, J., Bovet, L., Lee, Y., Geldner, N., Fernie, A. R., & Martinoia, E. (2012). AtABCG29 is a monolignol transporter involved in lignin biosynthesis. *Current Biology*, 22(13), 1207–1212. <https://doi.org/10.1016/j.cub.2012.04.064>
- Almahasheer, H. (2019). High levels of heavy metals in Western Arabian Gulf mangrove soils. *Molecular Biology Reports*, 46(2), 1585–1592. <https://doi.org/10.1007/s11033-019-04603-2>
- Amalia, R., & Akhtamimi, I. (2016). Studi pengaruh jenis dan konsentrasi zat fiksasi terhadap kualitas warna kain batik dengan pewarna alam limbah kulit buah rambutan (*Nephelium lappaceum*). *Dinamika Kerajinan Dan Batik: Majalah Ilmiah*, 33(2), 85. <https://doi.org/10.22322/dkb.v33i2.1474>
- Ambo-rape, R., Lajus, D. L., & Schreider, M. J. (2011). Heavy Metal Impact on Growth on Leaf Asymmetry of Seagrass, *Halophila ovalis*. *Environmental Chemistry and Ecotoxicology*, 3(6), 149–159. <https://doi.org/10.2514/3.29189>
- Azubuikwe, C. C., Chikere, C. B., & Okpokwasili, G. C. (2016). Bioremediation techniques – classification based on site of application : principles , advantages , limitations and prospects. *World Journal of Microbiology and Biotechnology*, 32(11), 1–18. <https://doi.org/10.1007/s11274-016-2137-x>
- Badria, F. A., & Aboelmaaty, W. S. (2019). Plant Histochemistry: A Versatile and Indispensable Tool in Localization of Gene Expression, Enzymes, Cytokines, Secondary Metabolites and Detection of Plants Infection and Pollution. *Acta Scientific Pharmaceutical Sciences*, 3(7), 88–100. <https://doi.org/10.31080/asps.2019.03.0318>
- Badria, F. A., & Aboelmaaty, W. S. (2020). Chemical, biochemical, genetics, and physiological role of secondary metabolites of medicinal plants via utilization of plant histochemical techniques. *Asian Journal of Phytomedicine and Clinical Research*, 8(1), 12–28.
- Baker, A. J. M. (1981). Accumulators and Excluders - Strategies in the Response of Plants to Heavy Metals. *Journal of Plant Nutrition*, 3(1–4), 643–654. <https://doi.org/10.1080/01904168109362867>
- Batool, R., Hameed, M., Ashraf, M., Fatima, S., Nawaz, T., & Ahmad, M.S.A. (2014). Structural and functional response to metal toxicity in aquatic

*Cyperus alopecuroides* Rottb. *Limnologia*, 48, 46–56.  
<https://doi.org/10.1016/j.limno.2014.06.002>

- Bojórquez-Quintal, E., Escalante-Magaña, C., Echevarría-Machado, I., & Martínez-Estévez, M. (2017). Aluminum, a friend or foe of higher plants in acid soils. *Frontiers in Plant Science*, 8(October), 1–18.  
<https://doi.org/10.3389/fpls.2017.01767>
- Budiyanto, S., Anies, Purnaweni, H., & Sunoko, H. R. (2018). Environmental Analysis of the Impacts of Batik Waste Water Polution on the Quality of Dug Well Water in the Batik Industrial Center of Jenggot Pekalongan City. *E3S Web of Conferences*, 31. <https://doi.org/10.1051/e3sconf/20183109008>
- Chahal, K. K., Bhardwaj, U., Kaushal, S., & Sandhu, A. K. (2015). Chemical composition and biological properties of *Chrysopogon zizanioides* (L.)Roberty syn. *Vetiveria zizanioides* (L.) Nash-a review. *Indian Journal of Natural Products and Resources*, 6(4), 251–260.
- Chakrabarty, D., Chauhan, P. S., Chauhan, A. S., Indoliya, Y., Lavania, U. C., & Nautiyal, C. S. (2015). De novo assembly and characterization of root transcriptome in two distinct morphotypes of vetiver, *Chrysopogon zizanioides* (L.) Roberty. *Scientific Reports*, 5(December).  
<https://doi.org/10.1038/srep18630>
- Champagnat, P., Figueredo, G., Chalchat, J. C., Carnat, A. P., & Bessière, J. M. (2006). A study on the composition of commercial *Vetiveria zizanioides* oils from different geographical origins. *Journal of Essential Oil Research*, 18(4), 416–422. <https://doi.org/10.1080/10412905.2006.9699129>
- Chandanshive, V., Kadam, S., Rane, N., Jeon, B. H., Jadhav, J., & Govindwar, S. (2020). In situ textile wastewater treatment in high rate transpiration system furrows planted with aquatic macrophytes and floating phytobeds. *Chemosphere*, 252, 126513.  
<https://doi.org/10.1016/j.chemosphere.2020.126513>
- Chetan, A., & Ami, P. (2015). Effects of Heavy Metals (Cu and Cd) on Growth of Leafy Vegetables-*Spinacia oleracea* and *Amaranthus caudatus*. *Int. Res. J. Environment Sci. International Science Congress Association*, 4(6), 63–69.  
[www.isca.me](http://www.isca.me)
- Chou, S. T., Shih, Y., & Lin, C. C. (2016). Vetiver grass (*Vetiveria zizanioides*) oils. In *Essential Oils in Food Preservation, Flavor and Safety*. Elsevier Inc.  
<https://doi.org/10.1016/B978-0-12-416641-7.00096-1>
- Crang, R., Sheila, L.-S., & Wise, R. (2018). Plant Anatomy: a Concept-Based Approach to the Structure of Seed Plants. In *Nature* (1st ed., Vol. 278, Issue 5699). Springer International Publishing. <https://doi.org/10.1007/978-3-319-77315-5>
- Danh, L. T., Truong, P., Mammucari, R., & Foster, N. (2010). Extraction of vetiver essential oil by ethanol-modified supercritical carbon dioxide. *Chemical Engineering Journal*, 165(1), 26–34.  
<https://doi.org/10.1016/j.cej.2010.08.048>

- Darajeh, N., Idris, A., Fard Masoumi, H. R., Nourani, A., Truong, P., & Sairi, N. A. (2016). Modeling BOD and COD removal from Palm Oil Mill Secondary Effluent in floating wetland by *Chrysopogon zizanioides* (L.) using response surface methodology. *Journal of Environmental Management*, 181, 343–352. <https://doi.org/10.1016/j.jenvman.2016.06.060>
- Darmanti, S. (2015). Penebalan Dinding Sel Xilem Tanaman Kedelai (*Glycine max* L. Merr) Var. Grobogan Akibat Cekaman Ganda Interferensi Teki (*Cyperus rotundus* L.) dan Kekeringan. *Buletin Anatomi Dan Fisiologi*, 23(2), 23–28. <https://doi.org/https://doi.org/10.14710/baf.v23i2.9999>
- Dewi, R., Mumpuni, A., & Yusiana, R. (2020). Chromium Removal of Batik Wastewater using *Aspergillus* sp . *IOP Conference Series: Earth and Environmental Science*. <https://doi.org/10.1088/1755-1315/593/1/012022>
- Effendi, H., Munawaroh, A., & Puspa Ayu, I. (2017). Crude oil spilled water treatment with *Vetiveria zizanioides* in floating wetland. *Egyptian Journal of Aquatic Research*, 43(3), 185–193. <https://doi.org/10.1016/j.ejar.2017.08.003>
- Ellouze, E., Tahri, N., & Amar, R. Ben. (2012). Enhancement of textile wastewater treatment process using Nano filtration. *Desalination*, 286(2012), 16–23. <https://doi.org/10.1016/j.desal.2011.09.025>
- Escoto, D. F., Gayer, M. C., Bianchini, M. C., Pereira, G. da C., Roehrs, R., & Denardin, E. L. . (2019). Use of *Pistia stratiotes* for Phytoremediation of water Resources Contaminated by Clomazone. *Chemosphere*, 227(2019), 299–304. <https://doi.org/10.1016/j.chemosphere.2019.04.013>
- Fajar, M., Mediani, A., & Finesa, Y. (2019). Analisis Peranan IPAL Dalam Strategi Penanganan Limbah Industri Batik di Kota Pekalongan. *Prosiding Seminar Nasional Geografi*, 84–90.
- Forgacs, E., Cserh ti, T., & Oros, G. (2004). Removal of synthetic dyes from wastewaters: A review. *Environment International*, 30(7), 953–971. <https://doi.org/10.1016/j.envint.2004.02.001>
- Gautam, M., & Agrawal, M. (2017). Phytoremediation of metals using vetiver (*Chrysopogon zizanioides* (L.) Roberty) grown under different levels of red mud in sludge amended soil. *Journal of Geochemical Exploration*, 182, 218–227. <https://doi.org/10.1016/j.gexplo.2017.03.003>
- Gazey, C. (2018). *Effects of soil*. Effects of Soil Acidity. <https://www.agric.wa.gov.au/soil-acidity/effects-soil-acidity>
- Ghosh, M., Paul, J., Jana, A., De, A., & Mukherjee, A. (2015). Use of the grass, *Vetiveria zizanioides* (L.) Nash for detoxification and phytoremediation of soils contaminated with fly ash from thermal power plants. *Ecological Engineering*, 74, 258–265. <https://doi.org/10.1016/j.ecoleng.2014.10.011>
- Gomes, M. P., Marques, T. C. L. L. de S. M., Nogueira, M. de O. G., de Castro, E. M., & Soares,  . M. (2011). Ecophysiological and anatomical changes due to uptake and accumulation of heavy metal in *Brachiaria decumbens*. *Scientia Agricola*, 68(5), 566–573. <https://doi.org/10.1590/S0103-90162011000500009>

- González-Mendoza, D., Troncoso-Rojas, R., Gonzalez-Soto, T., Grimaldo-Juarez, O., Ceceña-Duran, C., Duran-Hernandez, D., & Gutierrez-Miceli, F. (2018). Changes in the phenylalanine ammonia lyase activity, total phenolic compounds, and flavonoids in *Prosopis glandulosa* treated with cadmium and copper. *Anais Da Academia Brasileira de Ciencias*, 90(2), 1465–1472. <https://doi.org/10.1590/0001-3765201820170622>
- Govender, N. T., Mahmood, M., Seman, I. A., & Wong, M. Y. (2017). The phenylpropanoid pathway and lignin in defense against *Ganoderma boninense* colonized root tissues in oil palm (*Elaeis guineensis* Jacq.). *Frontiers in Plant Science*, 8(August), 1–11. <https://doi.org/10.3389/fpls.2017.01395>
- Gratani, L. (2014). Plant Phenotypic Plasticity in Response to Environmental Factors. *Advances in Botany*, 2014, 1–17. <https://doi.org/10.1155/2014/208747>
- He, M., He, C. Q., & Ding, N. Z. (2018). Abiotic stresses: General defenses of land plants and chances for engineering multistress tolerance. *Frontiers in Plant Science*, 871(December), 1–18. <https://doi.org/10.3389/fpls.2018.01771>
- Hidayati, N. (2005). Fitoremediasi dan Potensi Tumbuhan Hiperakumulator. *HAYATI Journal of Biosciences*, 12(1), 35–40. [https://doi.org/10.1016/S1978-3019\(16\)30321-7](https://doi.org/10.1016/S1978-3019(16)30321-7)
- Hopkins, W. G., & Huner, N. P. . (2009). *Introduction to Plant Physiology 4th Edition*. John Wiley & Sons.
- Indrayani, L., Andriyati, W., Nuraini, E., & Triwiswara, M. (2020). Aplikasi Mesin Berkas Elektron (MBE) sebagai Alternatif Fiksator pada Pewarnaan Batik Warna Alam. *Dinamika Kerajinan Dan Batik: Majalah Ilmiah*, 37(1). <https://doi.org/10.22322/dkb.v37i1.6199>
- Isah, T. (2019). Stress and defense responses in plant secondary metabolites production. *Biological Research*, 52(1), 39. <https://doi.org/10.1186/s40659-019-0246-3>
- Jesus, D. da S. de, Martins, F. M., & Azevedo Neto, A. D. de. (2016). Structural changes in leaves and roots are anatomical markers of aluminum sensitivity in sunflower. *Pesquisa Agropecuária Tropical*, 46(4), 383–390. <https://doi.org/10.1590/1983-40632016v46a1426>
- Jia, W., Lv, S., Feng, J., Li, J., Li, Y., & Li, S. (2016). Morphophysiological characteristic analysis demonstrated the potential of sweet sorghum (*Sorghum bicolor* (L.) Moench) in the phytoremediation of cadmium-contaminated soils. *Environmental Science and Pollution Research*, 23(18), 18823–18831. <https://doi.org/10.1007/s11356-016-7083-5>
- Khalik, W. F., Ho, L.-N., Ong, S.-A., Wong, Y.-S., Yusoff, N. A., & Ridwan, F. (2015). Decolorization and Mineralization of Batik Wastewater through Solar Photocatalytic Process. *Sains Malaysiana*, 44(4), 607–612.
- Kinraide, T. B. (1997). Reconsidering the rhizotoxicity of hydroxyl, sulphate, and

- fluoride complexes of aluminium. *Journal of Experimental Botany*, 48(310), 1115–1124. <https://doi.org/10.1093/jxb/48.5.1115>
- Krämer, U. (2010). Metal Hyperaccumulation in Plants. *Annual Review of Plant Biology*, 61(1), 517–534. <https://doi.org/10.1146/annurev-arplant-042809-112156>
- Le Gall, H., Philippe, F., Domon, J. M., Gillet, F., Pelloux, J., & Rayon, C. (2015). Cell wall metabolism in response to abiotic stress. *Plants*, 4(1), 112–166. <https://doi.org/10.3390/plants4010112>
- Lee, Y., Rubio, M. C., Alassimone, J., & Geldner, N. (2013). A mechanism for localized lignin deposition in the endodermis. *Cell*, 153(2), 402–412. <https://doi.org/10.1016/j.cell.2013.02.045>
- Lequeux, H., Hermans, C., Lutts, S., & Verbruggen, N. (2010). Response to copper excess in *Arabidopsis thaliana*: Impact on the root system architecture, hormone distribution, lignin accumulation and mineral profile. *Plant Physiology and Biochemistry*, 48(8), 673–682. <https://doi.org/10.1016/j.plaphy.2010.05.005>
- Lintunen, A., Lindfors, L., Nikinmaa, E., & Hölttä, T. (2017). Xylem diameter changes during osmotic stress, desiccation and freezing in *Pinus sylvestris* and *Populus tremula*. *Tree Physiology*, 37(4), 491–500. <https://doi.org/10.1093/treephys/tpw114>
- Liska, D., Martinka, M., Kohanova, J., & Lux, A. (2016). Asymmetrical development of root endodermis and exodermis in reaction to abiotic stresses. *Annals of Botany*, 118(4), 667–674. <https://doi.org/10.1093/aob/mcw047>
- Loix, C., Huybrechts, M., Vangronsveld, J., Gielen, M., Keunen, E., & Cuypers, A. (2017). Reciprocal interactions between cadmium-induced cell wall responses and oxidative stress in plants. *Frontiers in Plant Science*, 8(October), 1–19. <https://doi.org/10.3389/fpls.2017.01867>
- Mace, M. E., A, B. A., & Stipanovic, R. D. (1974). Histochemistry and Isolation of Gossypol and Related Terpenoids in Roots of Cotton Seedlings. *Phytopathology*, 64(10), 1297. <https://doi.org/10.1094/phyto-64-1297>
- Marchica, A., Crottozzi, L., Detti, R., Lorenzini, G., Pellegrini, E., Petersen, M., & Nali, C. (2020). The biosynthesis of phenolic compounds is an integrated defence mechanism to prevent ozone injury in *Salvia officinalis*. *Antioxidants*, 9(12), 1–16. <https://doi.org/10.3390/antiox9121274>
- Marwari, R., & Khan, T. I. (2012). Effect of textile waste water on tomato plant, *Lycopersicon esculentum*. *Journal of Environmental Biology*, 33(5), 849–854.
- Mazid, M., Khan, T. A., & Mohammad, F. (2011). Role of secondary metabolites in defense mechanisms of plants. *Biology and Medicine*, 3(Special Issue), 232–249.
- Melato, F., Regnier, T., McCrindle, R., & Mokgalaka, N. (2012). Impact of metals on secondary metabolites production and plant morphology in vetiver grass



- (*Chrysopogon zizanioides*). *South African Journal of Chemistry*, 65(1), 178–183.
- Mickovski, S. B., Van Beek, L. P. H., & Salin, F. (2005). Uprooting of vetiver uprooting resistance of vetiver grass (*Vetiveria zizanioides*). *Plant and Soil*, 278(1–2), 33–41. <https://doi.org/10.1007/s11104-005-2379-0>
- Miguel, S. A., Ravanel, P., & Raveton, M. (2013). A comparative study on the uptake and translocation of organochlorines by *Phragmites australis*. *Journal of Hazardous Materials*, 244–245, 60–69. <https://doi.org/10.1016/j.jhazmat.2012.11.025>
- Minkina, T., Fedorenko, G., Nevidomskaya, D., Fedorenko, A., Chaplygin, V., & Mandzhieva, S. (2018). Morphological and anatomical changes of *Phragmites australis* Cav. due to the uptake and accumulation of heavy metals from polluted soils. *Science of the Total Environment*, 636, 392–401. <https://doi.org/10.1016/j.scitotenv.2018.04.306>
- Muchtasjar, B., Hadiyanto, H., & Izzati, M. (2019). Microbial degradation of batik waste water treatment in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 314(1). <https://doi.org/10.1088/1755-1315/314/1/012020>
- Mukimin, A., Vistanty, H., Zen, N., Purwanto, A., & Wicaksono, K. A. (2018). Performance of bioequalization-electrocatalytic integrated method for pollutants removal of hand-drawn batik wastewater. *Journal of Water Process Engineering*, 21(July 2017), 77–83. <https://doi.org/10.1016/j.jwpe.2017.12.004>
- Muliasari, I. G. A. D., & Widiastuti. (2010). Daya dukung lingkungan terkait pengolahan limbah batik di Kampung Batik Giriloyo, Kabupaten Bantul, Yogyakarta. *Atrium*, 6(2), 131–139.
- Murti, V. M., & Maryani. (2020). Anatomical responses of marigold (*Tagetes erecta* L.) roots and stems to batik wastewater. *AIP Conference Proceedings*, 2260(September). <https://doi.org/10.1063/5.0015766>
- Naqsyabandi, S., Riani, E., & Suprihatin, S. (2018). Impact of batik wastewater pollution on macrobenthic community in Pekalongan River. *AIP Conference Proceedings*, 2023(October). <https://doi.org/10.1063/1.5064125>
- Nguyen, T. T., Tung, N. T., Sy, V. Van, & Than, N. Vi. (2018). Microscopic characteristics and essential oil composition of *Chrysopogon zizanioides* (L.) Roberty collected in Quang Nam. *Journal of Medicinal Materials*, 23(3), 184–189.
- Nindyawati, D. L., & Indriyani, S. (2017). Struktur Sel Sekretori dan Uji Mikroskopi Mikrokimiawi Metabolit Sekunder pada Daun dari Tujuh Taksa Tanaman Obat Antihipertensi Hipertensi atau darah tinggi adalah suatu penyakit kronis yang sering disebut sebagai silent killer karena pada umumnya seoran. *Jurnal Biotropika*, 5(2), 60.
- Ningsih, D. R., Zusfahair, & Kartika, D. (2016). *Identifikasi Senyawa Metabolit Sekunder serta Uji Aktivitas Ekstrak Daun Sirsak sebagai Antibakteri*.

133(2015), 54507.

- Nurainun, Heriyana, & Rasyimah. (2008). Analisis Industri Batik di Indonesia. *Fokus Ekonomi*, 7(3), 124–135.
- Ohya, T., Ikura, H., Tanoi, K., Nishiyama, H., & Nakanishi, T. M. (2005). 109Cd uptake and translocation in a soybean plant under different pH conditions. *Journal of Radioanalytical and Nuclear Chemistry*, 264(2), 303–306. <https://doi.org/10.1007/s10967-005-0711-z>
- Oshunsanya, S. O., & Aliku, O. (2017). Vetiver Grass: A Tool for Sustainable Agriculture. In *Grasses - Benefits, Diversities and Functional Roles* (pp. 143–158). <https://doi.org/10.5772/intechopen.69303>
- Pagare, S., Bhatia, M., Tripathi, N., Pagare, S., & Bansal, Y. K. (2015). Secondary metabolites of plants and their role: Overview. *Current Trends in Biotechnology and Pharmacy*, 9(3), 293–304.
- Pandey, J., Verma, R. K., & Singh, S. (2019). Suitability of aromatic plants for phytoremediation of heavy metal contaminated areas: a review. *International Journal of Phytoremediation*, 21(5), 405–418. <https://doi.org/10.1080/15226514.2018.1540546>
- PH, F., Das, R., Baruah, U., & Das, S. (2020). Growth study of rice genotypes to varying levels of aluminum. *International Journal of Chemical Studies*, 8(6), 2862–2867. <https://doi.org/10.22271/chemi.2020.v8.i6ao.11291>
- Prabakaran, K., Li, J., Anandkumar, A., Leng, Z., Zou, C. B., & Du, D. (2019). Managing environmental contamination through phytoremediation by invasive plants : A review. *Ecological Engineering*, 138(March), 28–37. <https://doi.org/10.1016/j.ecoleng.2019.07.002>
- Prasad, A., Chand, S., Kumar, S., Chattopadhyay, A., & Patra, D. D. (2014). Heavy Metals Affect Yield, Essential Oil Compound, and Rhizosphere Microflora of Vetiver (*Vetiveria zizanioides* Linn. nash) Grass. *Communications in Soil Science and Plant Analysis*, 45(11), 1511–1522. <https://doi.org/10.1080/00103624.2014.904334>
- Pratiwi, D. R., Sulistyaningsih, Y. C., & 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. <https://doi.org/10.4308/hjb.27.1.1>
- Printz, B., Lutts, S., Hausman, J. F., & Sergeant, K. (2016). Copper trafficking in plants and its implication on cell wall dynamics. *Frontiers in Plant Science*, 7(May), 1–16. <https://doi.org/10.3389/fpls.2016.00601>
- Rahman, M. A., Lee, S. H., Ji, H. C., Kabir, A. H., Jones, C. S., & Lee, K. W. (2018). Importance of mineral nutrition for mitigating aluminum toxicity in plants on acidic soils: Current status and opportunities. *International Journal of Molecular Sciences*, 19(10), 1–28. <https://doi.org/10.3390/ijms19103073>
- Rahmawan, A. J., Effendi, H., & Suprihatin, S. (2019). Potensi rumput vetiver (*Chrysopogon zizanioides* L.) dan kangkung (*Ipomoea aquatica* Forsk.)

sebagai agen fitoremediasi limbah industri kayu. *Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan (Journal of Natural Resources and Environmental Management)*, 9(4), 904–919.  
<https://doi.org/10.29244/jpsl.9.4.904-919>

- Rajhi, I., & Mhadhbi, H. (2019). Mechanisms of aerenchyma formation in maize roots. *African Journal of Agricultural Research*, 14(14), 680–685.  
<https://doi.org/10.5897/ajar2016.11259>
- Ratnawati, N. A., Prasetya, A. T., & Rahayu, F. (2019). Validasi Metode Pengujian Logam Berat Timbal (Pb) dengan Destruksi Basah Menggunakan FAAS dalam Sedimen Sungai Banjir Kanal Barat Semarang. *Indonesian Journal of Chemical Science*, 8(1), 60–68.
- Rojas-Sandoval, J. (2020). *Chrysopogon zizanioides*. CAB International.  
[https://doi.org/10.1007/978-3-319-26062-4\\_16](https://doi.org/10.1007/978-3-319-26062-4_16)
- Romdhane, L., Panozzo, A., Radhouane, L., Dal Cortivo, C., Barion, G., & Vamerali, T. (2021). Root characteristics and metal uptake of maize (*Zea mays* L.) under extreme soil contamination. *Agronomy*, 11(1), 1–14.  
<https://doi.org/10.3390/agronomy11010178>
- Rotkittikhun, P., Kruatrachue, M., Pokethitiyook, P., & Baker, A. J. M. (2010). Tolerance and accumulation of lead in *Vetiveria zizanioides* and its effect on oil production. *Journal of Environmental Biology*, 31(3), 329–334.
- Rudall, P. J. (2007). *Anatomy of Flowering Plants: An Introduction to Structure and Development (3rd ed.)* (3rd ed.). Cambridge University Press.  
<https://doi.org/10.1017/CBO9780511801709>
- Samchetshabam, G., Hussan, A., & Choudhury, T. G. (2017). Impact of Textile Dyes Waste on Aquatic Environments and its Treatment. *Environment & Ecology*, 35(22), 2349–2353.
- Saulle, C. C., Raman, V., Oliveira, A. V. G., Maia, B. H. L. de N. S., Meneghetti, E. K., Flores, T. B., Farago, P. V., Khan, I. A., & Budel, J. M. (2018). Anatomy and volatile oil chemistry of *Eucalyptus saligna* cultivated in South Brazil. *Revista Brasileira de Farmacognosia*, 28(2), 125–134.  
<https://doi.org/10.1016/j.bjp.2018.03.001>
- Schreiber, S. G., Hacke, U. G., & Hamann, A. (2015). Variation of xylem vessel diameters across a climate gradient: Insight from a reciprocal transplant experiment with a widespread boreal tree. *Functional Ecology*, 29(11), 1392–1401. <https://doi.org/10.1111/1365-2435.12455>
- Seroja, R., Effendi, H., & Hariyadi, S. (2018). Tofu wastewater treatment using vetiver grass (*Vetiveria zizanioides*) and zeliac. *Applied Water Science*, 8(1), 1–6. <https://doi.org/10.1007/s13201-018-0640-y>
- Setyorini, S. D., & Yusnawan, E. (2017). Peningkatan Kandungan Metabolit Sekunder Tanaman Aneka Kacang sebagai Respon Cekaman Biotik. *Iptek Tanaman Pangan*, 11(2), 167–174.
- Silva, S. A. E., Techio, V. H., De Castro, E. M., De Faria, M. R., & Palmieri, M. J. (2013). Reproductive, cellular, and anatomical alterations in *Pistia*



- stratiotes* L. plants exposed to cadmium. *Water, Air, and Soil Pollution*, 224(3). <https://doi.org/10.1007/s11270-013-1454-z>
- Singh, S., Das, S., & Geeta, R. (2018). Role of cuticular wax in adaptation to abiotic stress: A molecular perspective. In *Abiotic Stress-Mediated Sensing and Signaling in Plants: An Omics Perspective* (pp. 155–182). [https://doi.org/10.1007/978-981-10-7479-0\\_5](https://doi.org/10.1007/978-981-10-7479-0_5)
- Soudek, P., Katrušáková, A., Sedláček, L., Petrová, Š., Kočí, V., Maršík, P., Griga, M., & Vaněk, T. (2010). Effect of heavy metals on inhibition of root elongation in 23 cultivars of flax (*Linum usitatissimum* L.). *Archives of Environmental Contamination and Toxicology*, 59(2), 194–203. <https://doi.org/10.1007/s00244-010-9480-y>
- Steffens, B., Geske, T., & Sauter, M. (2011). Aerenchyma formation in the rice stem and its promotion by H<sub>2</sub>O<sub>2</sub>. *New Phytologist*, 190(2), 369–378. <https://doi.org/10.1111/j.1469-8137.2010.03496.x>
- Sulastri, Y. S., Purba, E., & Tampubolon, K. (2019). Evaluasi Kemampuan Beberapa Jenis Tanaman Sebagai Fitoremediasi Logam Berat Kadmium. *Jurnal Pertanian Tropik*, 6(1), 62–71. <https://doi.org/10.32734/jpt.v6i1.3041>
- Sultan, S. E. (2003). Phenotypic plasticity in plants: A case study in ecological development. *Evolution and Development*, 5(1), 25–33. <https://doi.org/10.1046/j.1525-142X.2003.03005.x>
- Suparman, A., Rupa, D., & Zulfadli. (2017). Identification of Secretory Structure and Histochemical of Family Araceae as Medicinal Plants by Dayak Kenyah Tribe. *Applied Science and Technology*, 1(2), 26–30.
- Sutikno. Petunjuk praktikum mikroteknik tumbuhan. Fakultas Biologi Universitas Gadjah Mada, Yogyakarta; 2014.
- Syed Hasan, S. N. M., Mohd Kusin, F., Sue Lee, A. L., Ukang, T. A., Mohamat Yusuff, F., & Zaiton Ibrahim, Z. (2017). Performance of Vetiver Grass (*Vetiveria zizanioides*) for Phytoremediation of Contaminated Water. *MATEC Web of Conferences*, 103, 1–9. <https://doi.org/10.1051/mateconf/201710306003>
- Taiz, L., & Zeiger, E. (2012). Plant Physiology Fifth Edition. In *Plant Physiology*. Sinauer Associates Inc., Publisher.
- Takarina, N. D., & Pin, T. G. (2017). Bioconcentration Factor (BCF) and Translocation Factor (TF) of Heavy Metals in Mangrove Trees of Blanakan Fish Farm. *Makara Journal of Science*, 21(2), 77–81. <https://doi.org/10.7454/mss.v21i2.7308>
- Tambunan, J. A. M., Effendi, H., & Krisanti, M. (2018). Phytoremediating batik wastewater using vetiver *Chrysopogon zizanioides* (L). *Polish Journal of Environmental Studies*, 27(3), 1281–1288. <https://doi.org/10.15244/pjoes/76728>
- Tao, S., Khanizadeh, S., Zhang, H., & Zhang, S. (2009). Anatomy, ultrastructure and lignin distribution of stone cells in two *Pyrus* species. *Plant Science*,

176(3), 413–419. <https://doi.org/10.1016/j.plantsci.2008.12.011>

Thongchai, A., Meeinkuirt, W., Taepayoon, P., & Chelong, I. ae. (2021). Effects of soil amendments on leaf anatomical characteristics of marigolds cultivated in cadmium-spiked soils. *Scientific Reports*, 11(1), 1–9.

<https://doi.org/10.1038/s41598-021-95467-9>

Trimanto., Dwiyantri, D., & Indriyani, S. (2018). Morfologi, Anatomi dan Uji Histokimia Rimpang *Curcuma aeruginosa* Valetton dan Zipj. *Jurnal Ilmu-Ilmu Hayati : LIPI*, 17(2), 123–133.

Tripathi, D. K., Singh, S., Singh, S., Mishra, S., Chauhan, D. K., & Dubey, N. K. (2015). Micronutrients and their diverse role in agricultural crops: advances and future prospective. *Acta Physiologiae Plantarum*, 37(139), 1–14.

<https://doi.org/10.1007/s11738-015-1870-3>

Videmšek, U., Turk, B., & Vodnik, D. (2006). Root aerenchyma – formation and function. *Acta Agriculturae Slovenica*, 87(2), 445–453.

Vieritz, A., Truong, P., Gardner, T., & Smeal, C. (2003). *Modelling Monto Vetiver Growth and Nutrient Uptake for Effluent Irrigation Schemes*. 1–13.

Weerathaworn, P., Soldati, A., & Stamp, P. (1992). Anatomy of seedling roots of tropical maize (*Zea mays* L.) cultivars at low water supply. *Journal of Experimental Botany*, 43(253), 1015–1021.

Wiryo, A. B., Nurfaizah, I., & Nidyasari, R. S. (2015). Struktur Sekretori dan Uji Histokimia Tumbuhan Obat Anggota Suku Asteraceae di Hutan Pendidikan Gunung Walat. *Seminar Nasional XII Pendidikan Biologi FKIP UNS 2015*, 12(1), 667–673. <https://jurnal.uns.ac.id/prosbi/article/viewFile/7044/6272>

Worku, A., Tefera, N., Kloos, H., & Benor, S. (2018). Bioremediation of brewery wastewater using hydroponics planted with vetiver grass in Addis Ababa, Ethiopia. *Bioresources and Bioprocessing*, 5(1).

<https://doi.org/10.1186/s40643-018-0225-5>

Yang, C., Zhang, X., Li, J., Bao, M., Ni, D., & Seago, J. L. (2014). Anatomy and histochemistry of roots and shoots in wild rice (*Zizania latifolia* Griseb.). *Journal of Botany*, 2014, 1–9. <https://doi.org/10.1155/2014/181727>

Yang, S., Chen, J., Zhang, J., Liu, J., Yu, J., Cai, D., Yao, L., & Duan, P. (2020). First genome survey and repeatome analysis of *Chrysopogon zizanioides* based on next-generation sequencing. *Biologia*, 75(9), 1273–1282.

<https://doi.org/10.2478/s11756-020-00517-8>

Yaseen, D. A., & Scholz, M. (2019). Textile dye wastewater characteristics and constituents of synthetic effluents : a critical review. *International Journal of Environmental Science and Technology*, 16(2), 1193–1226.

<https://doi.org/10.1007/s13762-018-2130-z>

Ziv, C., Zhao, Z., Gao, Y. G., & Xia, Y. (2018). Multifunctional roles of plant cuticle during plant-pathogen interactions. *Frontiers in Plant Science*, 9(July), 1–8. <https://doi.org/10.3389/fpls.2018.01088>

