DAFTAR PUSTAKA

Aguiar, N. O., Medici, L. O., Olivares, F. L., Dobbss, L. B., Torres-Netto, A., Silva, S. F. 2016. Metabolic profile and antioxidant responses during drought stress recovery in sugarcane treated with humic acids and endophytic diazotrophic bacteria. *Ann. Appl. Biol*, 168: 203–213. https://doi.org/10.1111/aab.12256

Agustin, N.I.W., Endnur, N., Nurfia, S., Setianingsih, S., Sholihah, U.N.A., Hendraswari, V.R., Bahari, F.P., & Al Wafi, M.F. 2024. Sosialisasi dan pelatihan pemanfaatan Biosaka sebagai alternatif untuk meminimalisir penggunaan pupuk anorganik pada pertanian berkelanjutan. *NAJWA: Jurnal Pengabdian dan Pemberdayaan Masyarakat*, 2(1): 71-83. https://doi.org/10.30762/najwa.v2i1.225

Akmalia, H. A. 2021. Adaptasi anatomis tumbuhan terhadap perbedaan stress lingkungan. *STIGMA: Jurnal Matematika dan Ilmu Pengetahuan Alam Unipa*, 14(1): 18-27. https://doi.org/10.36456/stigma.14.01.3491.10-17

Aliniaeifard, S., & Van Meeteren, U. 2016. Stomatal characteristics and desiccation response of leaves of cut chrysanthemum (*Chrysanthemum morifolium*) flowers grown at high air humidity. *Scientia Horticulturae*, *205*: 84-89. https://doi.org/10.1016/j.scienta.2016.04.025

Alpresem, W. F., Al-Najjar, M. A. H., & Ahmed, R. I. 2023. Effect of humic and fulvic acid treatment on the anatomical traits of the leaves of two genera of seed-lings of ornamental palm Washingtonia filifera and Phoenix canariensis. *Bionatura Latin American Journal of Biotechnology and Life Sciences, 8(4)*: 1-12.

Ampong, K., Thilakaranthna, M. S., & Gorim, L. Y. 2022. Understanding the role of humic acids on crop performance and soil health. *Frontiers in Agronomy*, 4: 848621. https://doi.org/10.3389/fagro.2022.848621

Atieno, M., Herrmann, L., Nguyen, H.T., Phan, H.T., Nguyen, N.K., Srean, P., Than, M.M., Zhiyong, R., Tittabutr, P., Shutsrirung, A., & Bräu L. 2020. Assessment of *biofertilizer* use for sustainable agriculture in the Great Mekong Region. *Journal of Environmental Management.* 275: 1–9. https://doi.org/10.1016/j.jenvman.2020.111300.

Badan Pusat Statistik Kabupaten Gunung Kidul. 2021. *Tinggi wilayah di Kabupaten Gunung Kidul*. Diakses pada tanggal 4 Januari 2026 pukul 18.56 WIB di https://gunungkidulkab.bps.go.id/id/statistics-table/1/ODIjMQ::/tinggi-wilayah.html

Badan Pusat Statistik. 2023. *Produksi tanaman florikultura (hias)*, 2021-2023. Diakses pada tanggal 3 Maret 2025 pukul 13.02 WIB di https://www.bps.go.id/id/statistics-table/2/NjQjMg==/produksi-tanamanflorikultura-hias-html

Bashir, O., Bangroo, S. A., Shafai, S. S., Senesi, N., Naikoo, N. B., Kader, S., & Jaufer, L. 2024. Unlocking the potential of soil potassium: geostatistical approaches for understanding spatial variations in Northwestern Himalayas. *Ecological Informatics*, 81: 102592. https://doi.org/10.1016/j.ecoinf.2024.102592

Benu, F. L., Lawa, Y., & Neolaka, Y. A. 2023. Mini Review: Peran *Biofertilizer* Pada Pertanian Lahan Kering. *Jurnal Beta Kimia*, 3(1): 40-49. https://doi.org/10.35508/jbk.v3i1.11656

Bhatt, P., & Singh, V. K. 2022. Effect of humic acid on soil properties and crop production–A review. *Indian Journal of Agricultural Sciences*, 92(12): 1423-1430. https://doi.org/10.56093/ijas.v92i12.124948

Borsuk, A. M., Roddy, A. B., Théroux-Rancourt, G., & Brodersen, C. R. 2022. Structural organization of the spongy mesophyll. *New Phytologist*, *234*(3): 946-960. https://doi.org/10.1111/nph.17971

Bramer I, Anderson B J, Bennie J, Bladon A J, De Frenne P, Hemming D, Hill R A, Kearney M R., Körner C., Korstjens A.H., Lenoir J., Maclean I.M.D., Marsh C.D., Morecroft M.D., Ohlemüller R., Slater H.D., Suggitt A.J., Zellweger F. & Gillingham P.K. 2018. Advances in monitoring and modelling climate at ecologically relevant scales adv. *Academic Press Inc*, 58: 101. https://doi.org/10.1016/bs.aecr.2017.12.005

Cahyono, O. B., Afroni, M. J., & Basuki, B. M. 2021. Monitoring dan pengatur kelembapan pada model green house tanaman krisan menggunakan telegram berbasis internet of things (iot) di kota batu. *Science Electro*, *13*(1). https://doi.org/10.19028/jtep.010.3.268-280

Chakraborty, T., & Akhtar, N. 2021. *Biofertilizer*s: prospects and challenges for future. *Biofertilizers: study and impact*, 575-590. https://doi.org/10.1002/9781119724995.ch20

Chia, S. Y., & Lim, M. W. 2022. A critical review on the influence of humidity for plant growth forecasting. In *IOP conference series: materials science and engineering,* 1257(1): 01200. https://doi.org/10.1088/1757-899X/1257/1/012001

Dacosta, Y. O., & Daningsih, E. 2022. Ketebalan daun dan laju transpirasi pada tanaman hias dikotil. *Jurnal Ilmu Pertanian Indonesia*, *27*(1): 40-47. https://doi.org/10.18343/jipi.27.1.40

Dalaila, I., Kusrinah, K., & Lianah, L. 2019. Morfologi dan anatomi *Chrysanthemum morifolium* Ramat. var. puspita nusantara dan var. tirta ayuniserta *Chrysanthemum indicum* L. var. mustika kaniya. *Al-Hayat: Journal of Biology and Applied Biology*, 2(2): 53-58. https://doi.org/10.21580/ah.v2i2.4660

Daniel, A.I., Fadaka, A.O., Gokul, A., Bakare, O.O., Aina, O., Fisher, S., Burt, A.F., Mavumengwana, V., Keyster, M., & Klein, A. 2022. *Biofertilizer*: the future of food security and food safety. *Microorganisms,* 10(6): 1220. https://doi.org/10.3390/microorganisms1006122

Dariah, A., Nurida, N. L., Salma, S., Nurjaya, & Santi, L. P. 2021. The use of soil ameliorants to improve soil quality and crop productivity of degraded semi-arid upland in Gunung Kidul, Yogyakarta, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 648(1): 012159. https://doi.org/10.1088/1755-1315/648/1/012159

Das, T., Bora, M., Tamuly, J., Benoy, S. M., Baruah, B. P., Saikia, P., & Saikia, B. K. 2021. Coal-derived humic acid for application in acid mine drainage (AMD) water treatment and electrochemical devices. *International Journal of Coal Science & Technology*, *8*(6): 1479-1490. https://doi.org/10.1007/s40789-021-00441-5

de Moraes, D.H.M., Mesquita, M., Graciano-Ribeiro, D., de Araújo, D.S., Battisti, R., Flores, R.A., de Melo, H.C. & Casaroli, D., 2022. The effect of xylem vessel diameter on potential hydraulic conductivity in different rice stem

longitudinal positions. *Flora*, *295*: 152147. https://doi.org/10.1016/j.flora.2022.152147

Dewandanu, A. 2021. Studi Keberadaan Signed Obyek Wisata (Studi Kasus Museum Karst Indonesia). *Prosiding (SIAR) Seminar Ilmiah Arsitektur 2021.*

Ekin, Z. 2019. Integrated use of humic acid and plant growth promoting rhizobacteria to ensure higher potato productivity in sustainable agriculture. *Sustainability*, 11(12): 3417. https://doi.org/10.3390/su11123417

Eviati, Sulaeman, Herawaty, L., Anggria, L., Usman, Tantika, H.E., Prihatini, R. & Wuningrum, P. 2023. *Petunjuk Teknis Analisis Kimia Tanah, Tanaman, Air, dan Pupuk edisi 3*. Kementrian Pertanian Republik Indonesia: Bogor.

Fang, J., Liu, S., Chen, S., Deng, H., Zhao, L., Liang, X. & Luo, J. 2025. A R1-type MYB CmREVEILLE2 regulates light-mediated chlorophyll biosynthesis and green color formation in chrysanthemum flowers. *Horticulture Advances*, *3*(1): 17. https://doi.org/10.1007/s44281-025-00069-4

Glick, B.R. 2012. Plant Growth-Promoting Bacteria*:* Mechanisms and Applications. *Hindawi Publishing Corporation Scientica*, 2012(1)*:* 1-15. https://doi.org/10.6064/2012/963401

Global Biodiversity Information Facility. 2023. *GBIF Backbone Taxonomy Chrysanthemum Sw.* Checklist dataset. https://doi.org/10.15468/39omei

Grigoras, C. D., & Toma, F. 2021. Photoperiodism, an important element for the growth and flowering of *Chrysanthemums*. *Scientific Papers. Series B. Horticulture*, 65(2): 215-221 https://doi.org/10.2478/alife-2021-0009

Hatfield, J.L. & J.H. Prueger. 2015. Temperature extremes*:* Effect on plant growth and development. *Weather and Climate Extremes*, 10*:* 4-10. https://doi.org/10.1016/j.wace.2015.08.001

Han, Y., Sun, T., Tang, Y., Yang, M., Gao, W., Wang, L., & Sui, C. 2025. Root rot in medicinal plants*:* a review of extensive research progress. *Frontiers in Plant Science*, *15*: 1504370. https://doi.org/10.3389/fpls.2024.1504370

Handayani, T. T., & Pramono, E. (2022). Quantitative and descriptive paradermal anatomy of *Dendrobium discolour* and *Phalaenopsis amabilis* orchid leaves (anatomi paradermal daun anggrek *Dendrobium discolour* dan *Phalaenopsis amabilis* secara kuantitatif dan deskriptif). *Jurnal Ilmiah Biologi Eksperimen*

dan Keanekaragaman Hayati. *9*(2)*:* 84-90. https://doi.org/10.23960/jbekh.v9i2.216

Haro, R., & Benito, B. 2019. The role of soil fungi in K^+ plant nutrition. International journal of molecular sciences, 20(13): 3169. https://doi.org/10.3390/ijms20133169

Huang, G., Shu, Y., Peng, S., & Li, Y. 2022. Leaf photosynthesis is positively correlated with xylem and phloem areas in leaf veins in rice (*Oryza sativa*) plants. *Annals of Botany*, 129(5): 619-631. https://doi.org/10.1093/aob/mcac020

Husen, E., Surono, Pratiwi, E., & Widowati, L.R. 2022 *Metode Analisis Biologi Tanah, Edisi 2.* Balai Penelitian Tanah: Bogor, Indonesia

Husna, L.A. & Nugroho, L.H. 2024. Struktur anatomis dan uji histokimia kulit buah naga (*Hylocereus polyrhizus* (Web.) Britton & Rose). *AL-KAUNIYAH: Jurnal Biologi*, 17(1): 21-31

Indabo, S. S. & Abubakar A.A. 2020. Effect of rabbit urine application rate as a *biofertilizer* on agro mophorlogical traits of uc82b tomato (*Lycopersicon Esculentum Mill*) variety in zaria, nigeria. *Dutse Journal of Pure and Applied Sciences*, 6(2)*:* 344-352. https://doi.org/10.35849/BJARE202301/81/002

Indrajati, S.B., Saputro, L.D., & Yuniar, A.R. 2023. *Panduan Teknis Budidaya Krisan Potong.* Pertanian Press:Bogor. ISBN : 978-979-582-243-1

Jalakas, P., Tulva, I., Bērziņa, N. M., & Hõrak, H. 2024. Stomatal patterning is differently regulated in adaxial and abaxial epidermis in *Arabidopsis*. *Journal of Experimental Botany*, *75*(20): 6476-6488. https://doi.org/10.1093/jxb/erae354

Jaros-Tsoj, K., Sitko, K., Rudnicka, M., Sugier, P., Jaroszuk-Ściseł, J., Rostański, A., Rineau, F., Papazoglou, E.G., Alexopoulou, E., Vangronsveld, J. & Wójcik, M. 2025. Beneficial effects of commercially available preparations of humic substances and mycorrhiza on growth and photosynthesis of sorghum and hemp cultivated on a metal (loid)-polluted field. *Plant and Soil*, 1-22. https://doi.org/10.1007/s11104-025-07816-6

Jindo, K., Olivares, F.L., da Paixão Malcher, D.J., Sánchez Monedero, M.A., Kempenaar, C., & Canellas, L.P. 2020. From lab to field*:* role of humic

substances under open field and *greenhouse* conditions as biostimulant and biocontrol agent. *Frontiers in Plant Science*, 11: 00426. https://doi.org/10.3389/fpls.2020.00426

Jufri, A. F., Rahmi, E., Agustini, R. Y., & Rosalina, F. 2024. Analisis kandungan c-organik dan total mikrob pada beberapa jenis tanah. *Jurnal Pertanian Agros*, 26(1): 273-279. http://dx.doi.org/10.37159/jpa.v26i1.4462

Katifori, E. (2018). The transport network of a leaf. *Comptes Rendus. Physique*, *19*(4): 244-252. https://doi.org/10.1016/j.crhy.2018.10.007

Keles, S.O. 2020. How anatomical and morphological characteristics affect the flexural properties of two angiosperm species at the sapling stage. *BioResources*, *15*(3): 5843.

Kumar, M., Heuvelink, E., Marcelis, L. F., & Van Ieperen, W. 2021. Floral induction in the short-day plant chrysanthemum under blue and red extended long-days. *Frontiers in Plant Science*, *11*: 610041. https://doi.org/10.3389/fpls.2020.610041

Kumar, S., Sindhu, S. S., & Kumar, R. 2022. *Biofertilizer*s: An ecofriendly technology for nutrient recycling and environmental sustainability. *Current Research in Microbial Sciences*, *3*, 100094. https://doi.org/10.1016/j.crmicr.2021.100094

Lailaty, I. Q., & Nugroho, L. H. 2021. Vegetative anatomy of three potted *Chrysanthemum* varieties under various paclobutrazol concentrations. *Biodiversitas Journal of Biological Diversity,* 22(2). https://doi.org/10.13057/biodiv/d220207

Lestari, N. I., & Siswanti, D. U. 2024. Physiological and Anatomical Responses of Red onion (*Allium cepa* L.) to Drought Stress after *Biofertilizer* Application. *Jurnal Biodjati*, 9(2): 359-372. https://doi.org/10.15575/biodjati.v9i2.38613

Li, Y.F., Fang, J., Wei, X., Wu, R., Cui, G., Li, F., Zheng., &Tan D. 2019. Humic acid fertilizer improved soil properties and soil microbial diversity of continuous cropping peanut*:* A three-year experiment. *Scientific Reports*, 9*:* 12014. https://doi.org/10.17221/132/2023-PSE

Lida, S., Doruk, K., Rina, L., & Mibang, A. 2024. Response of composts and *biofertilizer*s on growth of black soybean (*Glycine max* (L.) Merrill) variety-

VL 201 (Bhat). International *Journal of Research in Agronomy, 7*(6): 429-435. https://doi.org/10.33545/2618060X.2024.v7.i6f.905

Liesche, J., Pace, M. R., Xu, Q., Li, Y., & Chen, S. 2017. Height-related scaling of phloem anatomy and the evolution of sieve element end wall types in woody plants. *New Phytologist*, *214*(1): 245-256. https://doi.org/10.1111/nph.14360

Liu, D., Wang, Z., Zhu, G., Xu, A., Zhang, R., Bryant, R., Drohan, P.J., Long, H. & Willemsen, V., 2025. Stable soil moisture promotes shoot performance and shapes the root-rhizosphere microbiome. *Agricultural Water Management*, *310*: 109354. https://doi.org/10.1016/j.agwat.2025.109354

Manda, M., & Nicu, C. 2023. Growth and flowering performance evaluation of ten potted chrysanthemum cultivars. *Scientific Papers. Series B. Horticulture*, *67*(1).

Marchyshyn, S., Polonets, O., Savych, A., & Nakonechna, S. 2020. Determination of carbohydrates of *Chrysanthemum morifolium* L. leaves and flowers by GC-MS. *Pharmakeftiki*, 32: 202-212.

Martins, E.M., Pillajo, J.Q. & Jones, M.L. 2024. Humic and fulvic acids promote growth and flowering in petunias at low and optimal fertility. *HortScience,* 59(2): 235–244. https://doi.org/10.3390/horticulturae10070671

Matheus, R., & Kantur, D. 2025. Effectiveness of organic fertilizer enriched with humic acid on soil chemical quality, nutrient uptake, and shallot yield in calcareous soils. *Jurnal Teknik Pertanian Lampung (Journal of Agricultural Engineering)*, *14*(1): 309-318. https://doi.org/10.23960/jtep-l.v14i1.309-318

Miao, L., Wang, X., Yu, C., Ye, C., Yan, Y., & Wang, H. 2024. What factors control plant height?. *Journal of Integrative Agriculture*, *23*(6): 1803-1824. https://doi.org/10.1016/j.jia.2024.03.058

Milla-Moreno, E. A., McKown, A. D., Guy, R. D., & Soolanayakanahally, R. Y. 2016. Leaf mass per area predicts palisade structural properties linked to mesophyll conductance in balsam poplar (*Populus balsamifera* L.). *Botany*, *94*(3): 225-239.

Mindari, W., Sassongko, P.E., & Syekhfani. 2022. *Asam Humat Sebagai Amelioran dan Pupuk.Ed: 3.* UPN Veteran: Jawa Timur. ISBN: 978-602-9372-38-08

Moore, C.E., Meacham-Hensold, K., Lemonnier, P., Slattery, R.A., Benjamin, C., Bernacchi, C.J., Lawson, T. and Cavanagh, A.P., 2021. The effect of increasing temperature on crop photosynthesis: from enzymes to ecosystems. *Journal of experimental botany*, *72*(8): 2822-2844. https://doi.org/10.1093/jxb/erab090

Mulyaningsih, T., Muspiah, A., & Sany, Z. M. 2022. Anatomi keragaman batang *Gyrinops versteegii* (Thymelaeaceae) di pulau sumbawa (Stem diversity of *Gyrinops versteegii* (Thymelaeaceae) in Sumbawa Island. *Jurnal Ilmu Kehutanan*, *16*(1): 84-100. https://doi.org/10.1139/cjb-2015-0219

Musinguzi, P., Ebanyat, P., Tenywa, J. S., Basamba, T. A., Tenywa, M. M., & Mubiru, D. N. 2016. Critical soil organic carbon range for optimal crop response to mineral fertiliser nitrogen on a ferralsol. *Experimental Agriculture*, *52*(4): 635-653. https://doi.org/10.1017/S0014479715000307

Nardi, S., Schiavon, M., & Francioso, O. 2021. Chemical structure and biological activity of humic substances define their role as plant growth promoters. *Molecules*, 26: 2256. https://doi.org/10.3390/molecules26082256

Ningrum, S. A., Dzaky, M. A., & Rachmawati, R.C. 2024. Pengaruh pemberian biowash dari kulit buah terhadap kandungan protein, berat basah dan berat kering *Azolla pinnata. BIOMA: Jurnal Biologi Makassar*, 9(2): 102-115. https://doi.org/10.20956/bioma.v9i2.34936

Novia, W., & Fajriani. 2021. Analisis perbandingan kadar keasaman (ph) tanah sawah menggunakan metode kalorimeter dan elektrometer di desa matang setui. *Jurnal Hadron*, *3*(1): 10-12 https://doi.org/10.17969/jimfp.v2i1.2149

Olaniyan, F. T., Alori, E. T., Adekiya, A. O., Ayorinde, B. B., Daramola, F. Y., Osemwegie, O. O., & Babalola, O. O. 2022. The use of soil microbial potassium solubilizers in potassium nutrient availability in soil and its dynamics. *Annals of Microbiology*, *72*(1): 45. https://doi.org/10.1186/s13213-022-01701-8

Omer, R. M., Hewait, H. M., Mady, E., Yousif, S. K., Gashash, E. A., Randhir, R. & Randhir, T. O. 2023. Chemical, anatomical, and productivity responses of cowpea (*Vigna unguiculata* l.) To integrated *biofertilizer* applications with

pgpr, cyanobacteria, and yeast. *Sustainability*, *15*(9): 7599. https://doi.org/10.3390/su15097599

Özçınar, A. B. 2025. Investigation of the effects of different humic acid applications on seedling development of rapeseed (*Brassica napus* L.) under salt stress. *ISPEC Journal of Agricultural Sciences*, 9(1): 129-138. https://doi.org/10.5281/zenodo.14586310

Paluvi, N., Mukarlina, & Linda, R. 2015. Struktur anatomi daun, kantung dan sulur *Nepenthes gracilis* Korth. yang tumbuh di area intensitas cahaya berbeda. *Jurnal Protobiont*, 4(1):103- 107. https://doi.org/10.26418/protobiont.v4i1.9452

Pandya, J., Vadera, H., & Mehta, S. 2019. Response of (*Capsicum annuum* L.) saplings toward the humic acid: biomass measurement and anatomical changes. *International Journal of Recent Scientific Research*, 10(12): 36316-36321. http://dx.doi.org/10.24327/ijrsr.2019.1012.4900

Petropoulos, T., Benos, L., Busato, P., Kyriakarakos, G., Kateris, D., Aidonis, D., & Bochtis, D. 2025. Soil organic carbon assessment for carbon farming: a review. *Agriculture*, *15*(5): 567. https://doi.org/10.3390/agriculture15050567

Pizzeghello, D., Schiavon, M., Francioso, O., Dalla V.F., Ertani, A., & Nardi, S. 2020. Bioactivity of size-fractionated and unfractionated humic substances from two forest soils and comparative effects on N and S metabolism, nutrition, and root anatomy of *Allium sativum* L. *Front. Plant Sci*, 11: 1203. https://doi.org/10.3389/fpls.2020.01203

Pramanik, P., Goswami, A. J., Ghosh, S., & Kalita, C. 2019. An indigenous strain of potassium-solubilizing bacteria *Bacillus pseudomycoides* enhanced potassium uptake in tea plants by increasing potassium availability in the mica waste-treated soil of North-east India. *Journal of Applied Microbiology*, *126*(1): 215-222. https://doi.org/10.1111/jam.14130

Prihatanto, Z. H. N. M., Rabbani, T. Z., Heriyanti, A. P., & Fariz, T. R. 2022. Perbedaan karakteristik ekosistem karst kecamatan Ponjong, Gunungkidul dengan ekosistem karst Pracimontoro, Wonogiri. *Proceeding Seminar Nasional IPA*, 142-149.

Ramadhoni, M. S. N., Sumitra, M. K. T. A., & Mahetsa, R. Y. E. 2025. Study of the potential suitability of chrysanthemum plant areas with the suitability matrix overlay method. *Journal of Critical Ecology*, *2*(2): 114-128. https://doi.org/10.61511/jcreco.v2i2.2202

Rathnasamy, S.A., Kambale, R., Elangovan, A., Mohanavel, W., Shanmugavel, P., Ramasamy, G., Alagarsamy, S., Marimuthu, R., Rajagopalan, V.R., Manickam, S. & Ramanathan, V. 2023. Altering stomatal density for manipulating transpiration and photosynthetic traits in rice through CRISPR/Cas9 mutagenesis. *Current Issues in Molecular Biology*, 45(5)*:* 3801-3814. https://doi.org/10.3390/cimb45050245

Ratmadanti, F. R., & Maryani, M. M. 2017. Root anatomy and growth of *Capsicum frutescens* L. on verticulture with different watering supply. *Journal of Tropical Biodiversity and Biotechnology*, 2(1): 1-9. https://doi.org/10.22146/jtbb.22258

Raven, P. H., Evert, R. F., & Eichhorn, S. E. 2021. *Biology of Plants (8th ed.*). W. H. Freeman and Company

Rawat, N., Bohra, M., Adhikari, Y. S., Singh, K. C., Rawat, A., Megha, S., & Karki, P. 2025. Effect of humic acid concentrations on vegetative, floral attributes and economics of chrysanthemum (*Dendranthema grandiflora* Tzvelev) var. Garden Beauty under hilly condition of Uttarakhand, India. *Plant Archives*, 25(1): 116. https://doi.org/10.51470/PLANTARCHIVES.2025.v25.no.1.116

Ren, H., Wen, L.Z., Guo, Y.H., Yu, Y.Y., Sun, C.H., Fan, H.M., Ma, F.F. & Zheng, C.S., 2019. Expressional and functional verification of the involvement of CmEXPA4 in chrysanthemum root development. *Journal of Plant Growth Regulation*, 38(4): 1375-1386. https://doi.org/10.1007/s00344-019-09940-x

Renninger, H., Durbin, T., Gentry, A., & Kassahun, Z. 2020. Relationships between leaf anatomy and physiological functioning of Southern US oak species differing in flood tolerance. *Forests*, *11*(1): 73. https://doi.org/10.3390/f11010073

Riesty, O. S., & Siswanti, D. U. 2021. Effect of *biofertilizer* on growth and metaxylem diameter of *Amaranthus tricolor* L. in salinity stress

condition. *Biogenesis: Jurnal Ilmiah Biologi*, 9(2): 178-188. https://doi.org/10.24252/bio.v9i2.22232

Rohman, H. F., Sukri, M. Z., Azizah, M., Putra, D. E., Prasetyo, H., & Fadilah, A. R. 2025. Aplication of humic acid and fulvic acid on the growth of chrisant (*Chrysanthemum cinerariaefolium*) plants. *IOP Conference Series: Earth and Environmental Science*, 1446(1): 012041. https://doi.org/10.1088/1755-1315/1446/1/012041

Roulia, M. 2024. Humic substances: Importance for agriculture, affinity and interactions with soil amendments and pollutants. *Agronomy*, 14(2): 382. https://doi.org/10.3390/agronomy14020382

Salih, Z. K., & Ali, H. M. 2021. Effect of *biofertilizer* and humic acid on growth and flowering of *Solidago* spp. *IOP Conference Series: Earth and Environmental Science*, 761(1): 012059. https://doi.org/10.1088/1755-1315/761/1/012059

Saputri, DA, M Kamelia, S Almayra, & S Fatayati. 2019. Perubahan anatomi dan morfologi daun kedelai (*Glysin max*. L. (Merril) dan alangalang (*Imperata cylindrica* L.) yang tumbuh di tempat terbuka dan ternaungi. *Bioedukasi*, 10(1):74-81. https://doi.org/10.18805/IJARe.A-343

Saragih, S.W., Lubis, R., Adhyaksa, Y., Hasibuan, M.E.W., Sembiring, A., Nasution, I.H., Anggraini, D.M. & Meliala, B.A., 2025. Pengaruh nilai ph tanah terhadap potensi penggunaan lahan pertanian secanggang kabupaten langkat. *Jurnal Agro Fabrica*, *7*(1): 1-8. https://doi.org/10.47199/jaf.v7i1.299

Sari, D. P., & Harlita. 2018. Preparasi hands-free section dengan teknik replika untuk identifikasi stomata. *Proceeding Biology Education Conference*, 15(1): 660-664.

Sari, J. M., Turnip, M., & Zakiah, Z. 2023. Pengaruh cekaman kekeringan terhadap karakteristik anatomi daun, batang, dan akar tanaman *Nepenthes mirabilis* (Lour.) Druce. *Buletin Kebun Raya*, *26*(1): 1-10. https://doi.org/10.55981/bkr.2023.737

Sasongko, P. E., Dewi, W. S., & Hidayat, R. 2022. Assessment of soil fertility using the soil fertility index method on several land uses in Tutur District, Pasuruan

Regency of East Java. *Journal of Degraded & Mining Lands Management*, 10(1): 3787-3794. https:// doi.org/10.15243/jdmlm.2022.101.3787

Satodiya V.S & Parekh, D.D. 2024 Effect of nitrogen management through organic sources on vegetative growth of chrysanthemum (*Chrysanthemum morifolium* R.) var. IIHR-6. Int. J. Adv. *Biochem. Res*, 8(12)*:* 92-94. https://doi.org/10.33545/26174693.2024.v8.i12b.3077

Sembiring, R., Sembiring, M., Sembiring, S., Karo, S. B., Dahang, D., & Evan, M. 2023. *Chrysanthemum* sp. plant growth and development response due to application of plant growth regulator (pgr) and covering in plantlet acclimatization. *International Journal of Agricultural Science*, *8*: 371-385. http://iaras.org/iaras/journals/ijas

Shafqat, W., Mazrou, Y.S., Nehela, Y., Ikram, S., Bibi, S., Naqvi, S.A., Hameed, M. & Jaskani, M.J., 2021. Effect of three water regimes on the physiological and anatomical structure of stem and leaves of different citrus rootstocks with distinct degrees of tolerance to drought stress. *Horticulturae*, *7*(12): 554. https://doi.org/10.3390/horticulturae7120554

Shi, F., Yan, K., Zhu, A., Zhang, Y., Bai, Y., Tong, B., & Lu, Y. 2025. Effects of droughting stress on leaf physiological characteristics of *Machilus thunbergii* seedlings. *Agronomy*, *15*(9): 2154. https://doi.org/10.3390/agronomy15092154

Silva, M.S.R.D.A., dos Santos, B.D.M.S., da Silva, C.S.R.D.A., da Silva, C.S.R.D.A., Antunes, L.F.D.S., dos Santos, R.M., Santos, C.H.B. & Rigobelo, E.C., 2021. Humic substances in combination with plant growth-promoting bacteria as an alternative for sustainable agriculture. *Frontiers in Microbiology*, *12*: 719653. https://doi.org/10.3389/fmicb.2021.719653

Siswanti, D. U., & Umah, N. (2021). Effect of biofertilizer and salinity on growth and chlorophyll content of *Amaranthus tricolor* L. *IOP Conference Series: Earth and Environmental Science*, 662(1): 012019. https://doi.org/10.1088/1755-1315/662/1/012019

Siswanti, D. U., & Rachmawati, D. 2013. Pertumbuhan tiga kultivar padi (*Oryza sativa* L.) terhadap aplikasi pupuk bio cair dan kondisi tanah pertanian pasca erupsi Merapi 2010. *Biogenesis: Jurnal Ilmiah Biologi*, *1*(2): 110-115.

Sharma, N., Kumar, M., Kumari, N., Puri, S., Rais, N., Natta, S., Dhumal, S., Navamaniraj, N., Chandran, D., Mohankumar, P., & Muthukumar, M. 2023. Phytochemicals, therapeutic benefits and applications of Chrysanthemum flower: A review. *Heliyon,* 9(10): e20232. https://doi.org/10.1016/j.heliyon.2023.e20232

Sudadi, S., Putri, E. Y., & Suntoro, S. 2020. The use of biofilmed *biofertilizer* to improve soil chemical fertility and yield of upland kangkung (*Ipomoea reptans*) on Vertisol. *Planta Tropika*, 8(2): 83-92. http://orcid.org/0000-0001-9535-2487

Sujinah, & Jamil, A. 2016. Mekanisme Respon Tanaman Padi terhadap Cekaman Kekeringan dan Varietas Toleran. *Iptek Tanaman Pangan*, 11(1): 1–8. https://doi.org/10.14203/beritabiologi.v19i3B.4025

Syahfitri, P. M., Mildaryani, W., & Astriani, D. 2025. Pengaturan pembungaan krisan pot (*Chrysanthemum morifolium*) dengan variasi lama penyinaran lampu. *Prodising Seminar Nasional Kedaulatan Pertanian*, 2(1).

Tabassum, M. A., Zhu, G., Hafeez, A., Wahid, M. A., Shaban, M., & Li, Y. 2016. Influence of leaf vein density and thickness on hydraulic conductance and photosynthesis in rice (*Oryza sativa* L.) during water stress. *Scientific Reports*, *6*(1): 36894. https://doi.org/10.1038/srep36894

Tampubolon, G., Suryanto, & Thalia, O. 2022. Tanaman kelapa sawit menghasilkan (content of soil organic matter and ph and fresh fruit bunch production in the management system palm oil plant produce). *Jurnal Silva Tropika*, *6*(1): 1-14. https://doi.org/10.22437/jsilvtrop.v6i1.20163

Tang, Y., Yin, S., Pace, M.R., Gerolamo, C.S., Nogueira, A., Zuntini, A.R., Lohmann, L.G., Plath, M. & Liesche, J., 2022. Diameters of phloem sieve elements can predict stem growth rates of woody plants. *Tree Physiology*, *42*(8): 1560-1569. https://doi.org/10.1093/treephys/tpac022

Théroux-Rancourt, G., Roddy, A. B., Earles, J. M., Gilbert, M. E., Zwieniecki, M. A., Boyce, C. K. & Brodersen, C. R. 2021. Maximum CO_2 diffusion inside leaves is limited by the scaling of cell size and genome size. *Proceedings of the Royal Society B*, *288*(1945): 20203145. https://doi.org/10.1098/rspb.2020.3145

Wahyuni, D., Bertham, Y. H., & Widiyono, H. 2023. The effect of humic acid on biological properties of soil and upland rice plants in entisol Coastal Bengkulu City. In *E3S Web of Conferences*, 373: 06004. https://doi.org/10.1051/e3sconf/202337306004

Wajong, P. M.V., & Pioh, D. D. 2020. Benefits of organic mulse on growth crisan ornamental plants (*Chrysanthemum* sp.). *Jurnal Agroekoteknologi Terapan*, 1(1): 24-27. https://doi.org/10.35791/jat.v1i1.33982

Wanita, A. Y. P. 2022. Potensi produk samping budidaya krisan sebagai minuman fungsional: Senyawa kimia dan nilai tambahnya. *Jurnal Pertanian Agros*, 24(2): 526-533. https://ejournal.janabadra.ac.id/index.php/JA/article/view/1942

Wang, Q., Q. Chai, X. Dou, C. Zhao, W. Yin, H. Li & J. Wei. 2024. Soil Microorganisms in Agricultural Fields and Agronomic Regulation Pathways. *Agronomy*, 14*:* 1-12. https://doi.org/10.3390/agronomy14040669

Wang, Y., Liesche, J., Crivellaro, A., Doležal, J., Altman, J., Chiatante, D., Dimitrova, A., Fan, Z., Fu, P., Forest, F. & Gričar, J. 2025. Physical constraints and environmental factors shape phloem anatomical traits in woody angiosperm species. *New Phytologist*, *248*(5): 2316-2330. https://doi.org/10.1111/nph.70578

Weraduwage, S. M., Chen, J., Anozie, F. C., Morales, A., Weise, S. E., & Sharkey, T. D. 2015. The relationship between leaf area growth and biomass accumulation in *Arabidopsis thaliana*. *Frontiers In Plant Science*, *6*:167. https://doi.org/10.3389/fpls.2015.00167

Wihastuti, L., & Oktavia, R. 2021. Masterplan pengembangan desa wisata Gerbosari Kecamatan Samigaluh Kabupaten Kulon Progo. *Jurnal Pengabdian Dan Pengembangan Masyarakat*, 4(1): 1-8. https://doi.org/10.22146/jp2m.51204

Xu, J., Mohamed, E., Li, Q., Lu, T., Yu, H., & Jiang, W. 2021. Effect of humic acid addition on buffering capacity and nutrient storage capacity of soilless substrates. *Frontiers in Plant Science*, *12*: 644229. https://doi.org/10.3389/fpls.2021.644229

Xu, K., Guo, L., & Ye, H. 2019. A naturally optimized mass transfer process*:* The stomatal transpiration of plant leaves. *Journal of plant physiology*, *234*: 138-144. https://doi.org/10.1016/j.jplph.2019.02.004

Yang, F., Tang, C., & Antonietti, M. 2021. Natural and artificial humic substances to manage minerals, ions, water, and soil microorganisms. *Chemical Society Reviews*, 50: 6221–6239. https://doi.org/10.1039/D0CS01363C

Yodphet, B., Riddech, N., Kaewpradit, W., Roytrakul, S., Boonlue, S., & Jangpromma, N. 2025. Effect of microbial *biofertilizer* on proteomic profiling, antioxidant enzyme and andrographolide content in *Andrographis paniculata* Burm. f Nee. under drought stress. *Plant Stress*, *16*: 100817. https://doi.org/10.1016/j.stress.2025.100817

Zhang, N., Berman, S. R., van den Berg, T., Chen, Y., Marcelis, L. F., & Kaiser, E. 2024. Biochemical versus stomatal acclimation of dynamic photosynthetic gas exchange to elevated CO_2 in three horticultural species with contrasting stomatal morphology. *Plant, Cell & Environment*, 47(12): 4516-4529. https://doi.org/10.1111/pce.15043