

DAFTAR PUSTAKA

- Abid, M., Tian, Z., Ata-Ul-Karim, S. T., Cui, Y., Liu, Y., Zahoor, R., Jiang, D., and Dai, T. 2016. Nitrogen Nutrition Improves the Potential of Wheat (*Triticum aestivum* L.) to Alleviate the Effects of Drought Stress during Vegetative Growth Periods. *Front. Plant Sci*, 7:981.
- Afida, Y. N. dan Sitompul, S. M. 2020. Pertumbuhan, Hasil dan Pigmen Bayam Merah (*Amaranthus tricolor* L.) dengan Pemberian Pupuk Nitrogen dan Pupuk Kandang Ayam. *Jurnal Produksi Tanaman*, 8(7):633-641.
- Ahanger, M. A., Qi, M., Huang, Z., Xu, X., Begum, N., Qin, C., Zhang, C., Ahmad, N., Mustafa, N. S., Ashraf, M., & Zhang, L. 2021. Improving Growth and Photosynthetic Performance of Drought Stressed Tomato by Application of Nano-Organic Fertilizer Involves Up-Regulation of Nitrogen, Antioxidant and Osmolyte Metabolism. *Ecotoxicology And Environmental Safety*, 216:112195.
- Ardiana, D. 2017. Respon Beberapa Genotipe Cabai Merah (*Capsicum annum* L.) terhadap Cekaman Kekeringan pada Fase Generatif. *Doctoral dissertation*, Universitas Islam Negeri Sultan Syarif Kasim Riau.
- Anggraini, N., Faridah, E., dan Indrioko, S. 2015. Pengaruh Cekaman Kekeringan Terhadap Perilaku Fisiologis dan Pertumbuhan Bibit Black Locust (*Robinia pseudoacacia*). *Jurnal Ilmu Kehutanan*, 9(1):40-56.
- Anjum, S. A., Xie, X. Y., Wang, L. C., Saleem, M. F., Man, C., and Lei, W. 2011. Morphological, Physiological and Biochemical Responses of Plants to Drought Stress. *African Journal of Agricultural Research*, 6(9):2026-2032.
- Ashraf, M. and Harris, P. J. C. 2013. Photosynthesis Under Stressful Environments: An Overview. *Photosynthetica*, 51(2):163-190
- Aslanpour, M., Baneh, H. D., Tehranifar, A., and Shoor, M. 2019. Effect Of Water Stress on Growth Traits of Roots and Shoots (Fresh and Dry Weights and Amount of Water) of The White Seedless Grape. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 10(2):169-181.
- Az-Zahra, N. P. 2023. Respon Pertumbuhan dan Produksi Tiga Varietas Bayam Merah (*Amaranthus tricolor* L.) Akibat Aplikasi Dosis Nitrogen Berbasis Pupuk Organik Cair Urine Kelinci. *Agrin*, 27(2):110-123.
- Badan Meteorologi Klimatologi dan Geofisika. 2025. Prakiraan Cuaca Kabupaten Jombang Kecamatan Ploso. Diakses pada tanggal 26 Mei 2024 dari <https://www.bmkg.go.id/cuaca/prakiraan-cuaca/35.17>.
- Balai Penelitian Tanaman Tembakau dan Serat. 2020. Rekomendasi Pemupukan Tembakau. Kementerian Pertanian. Diakses pada tanggal 17 Juli 2025 dari <http://balittas.litbang.pertanian.go.id/>
- Bates, L. S., Waldren R. P., and Teare I. D. 1973. Rapid Determination of Free Proline For Water-Stress Studies. *Plant and Soil*. 39(1):205-207.

- Boyer, J. S. 1968. Relationship of Water Potential to Growth of Leaves. *Plant physiology*, 43(7):1056-1062.
- Budiman, H. 2013. Budidaya Tanaman Tembakau Kiat Menanam Tembakau Berkualitas Tinggi. Pustaka Baru Press. Bantul.
- Cabrera, M. L., Kissel, D. E., Vaio, N., Craig, J.R., Remaand, J.A., and Morris, L. A. 2005. Loblolly Pine Needles Retain Urea Fertilizer That Can Be Lost As Ammonia. *Soil Science Society of America Journal*, 69(5):1525-1531.
- Caine, R. S., Yin, X., Sloan, J., Harrison, E. L., Mohammed, U., Fulton, T., Biswal, A. K., Dionora, J., Chater, C. C., Coe, R. A., Bandyopadhyay, A., Murchie, E. H., Swarup, R., Quick, W. P., and Gray, J. E. 2019. Rice With Reduced Stomatal Density Conserves Water and Has Improved Drought Tolerance Under Future Climate Conditions. *New Phytologist*, 221(1):371-384.
- Chairani, H., Mugnisjah, W. Q., Yahya, S., Sopandy, D., Idris, K., & Sahar, A. 2007. Pertumbuhan Akar Kedelai pada Cekaman Aluminium, Kekeringan dan Cekaman Ganda Aluminium dan Kekeringan. *Agritrop*, 26(1):13-18.
- Chormova, D., Kavvadias, V., Okello, E., Shiel, R., and Brandt, K. 2023. Nitrogen Application Can be Reduced Without Affecting Carotenoid Content, Maturation, Shelf Life and Yield of Greenhouse Tomatoes. *Plants*, 12(7):1553.
- Dama, H., Aisyah, S.I. and Dewi, A.K. 2020. Respon Kerapatan Stomata dan Kandungan Klorofil Padi (*Oryza sativa* L.) Mutan terhadap Toleransi Kekeringan. *Jurnal Ilmiah Aplikasi Isotop dan Radiasi*, 16:1-6.
- Demmig-Adams, B., and Adams, W. W. 2002. Antioxidants in Photosynthesis and Human Nutrition. *Science*, 298(5601), 2149-2153.
- Dinas Perkebunan Jawa Timur. 2023. Petani Tembakau Tunda Musim Tanam. Diakses pada tanggal 15 Juli 2025 dari <https://disbun.jatimprov.go.id/web/baca/208>.
- Djajadi. 2015. Tobacco Diversity in Indonesia. *Journal of Biological Researches*. 20:27-32.
- Djumali, D. 2012. Tanggapan Partisi Karbohidrat Tembakau Temanggung Terhadap Dosis Pupuk Nitrogen dan Kaitannya Dengan Hasil dan Kadar Nikotin Rajangan Kering. *Buletin Tanaman Tembakau, Serat dan Minyak Industri*. 4(2):47-60.
- Dobra, J., Motyka, V., Dobrev, P., Malbeck, J., Prasil, I. T., Haisel, D., Gaudinova, A., Havlova, M., Gubis, J., and Vankova, R. 2010. Comparison of Hormonal Responses to Heat, Drought and Combined Stress in Tobacco Plants with Elevated Proline Content. *Journal of Plant Physiology*, 167(16):1360-1370.
- Dodd, I. C., Whalley, W. R., Ober, E. S., and Parry, M. A. J. 2018. Genetic and Management Approaches to Boost UK Wheat Yields by Ameliorating Water Deficits. *Journal of Experimental Botany*, 69(12):3075–3087.

- Eisele, J.F., Fäßler, F., Bürgel, P.F. and Chaban, C. 2016. A Rapid and Simple Method for Microscopy-based Stomata Analyses. *PLoS one*, 11(10):0164576.
- Engelstad, O. P. 1997. *Teknologi dan Penggunaan Pupuk*. Terjemahan DH. Goenadi. Gadjah Mada University Press. Yogyakarta.
- Fageria, N. K., and Baligar, V. C. 2005. Enhancing Nitrogen Use Efficiency in Crop Plants. *Advances in Agronomy*, 88:97-185.
- Fageria, N. K., Baligar, V. C., and Jones, C. A. 2009. Growth and Mineral Nutrition of Field Crops. *CRC Press*.
- Food and Agriculture Organization. 2025. Production practices & systems of Tobacco. Diakses pada tanggal 12 Juli 2025 dari <https://www.fao.org/3/y4856e/y4856e05.htm>
- Farooq, M., Wahid, A., Kobayashi, N., Fujita, D., Basra, S. M. A. 2009. Review Article Plant Drought Stress: Effects, Mechanisms And Management. *Agronomy for Sustainable Development*, 29: 185-212.
- Fathi, A. dan Tari, D. B. 2016. Effect of Droughts Stress and its Mechanism in Plants. *International Journal Of Life Science*, 10(1):1-6.
- Finch, S. 2015. *Estimating Nitrogen Content of Dryland Wheat Fields Using Landsat Imagery*. University of Idaho.
- Firdaus, L. N., Wulandari, S., dan Mulyeni, G. D. 2013. Pertumbuhan Akar Tanaman Karet Pada Tanah Bekas Tambang Bauksit dengan Aplikasi Bahan Organik. *Biogenesis*, 10(1):53-64.
- Flexas, J., Ribas-Carbó, M., Bota, J., Galmés, J., Henkle, M., Martínez-Cañellas, S., and Medrano, H. 2006. Decreased Rubisco Activity During Water Stress is Not Induced by Decreased Relative Water Content but Related to Conditions of Low Stomatal Conductance and Chloroplast CO₂ Concentration. *New phytologist*, 172(1):73-82.
- Flexas, J., and Medrano, H. 2002. Drought-inhibition of Photosynthesis in C3 Plants: Stomatal and Non-stomatal Limitations Revisited. *Annals of Botany*, 89(2):183-189.
- Gardner, F.P., Pearce, R.B., and Mitchell, R.L. 1985. *Physiology of Crop Plants*. Iowa State University Press.
- Gill, S. S., and Tuteja, N. 2010. Reactive Oxygen Species and Antioxidant Machinery in Abiotic Stress Tolerance in Crop Plants. *Plant Physiology and Biochemistry*, 48(12):909-930.
- Grover, M., Ali, S. Z., Sandhya, V., Rasul, A., and Venkateswarlu, B. 2011. Role of Microorganisms in Adaptation of Agriculture Crops to Abiotic Stresses. *World Journal of Microbiology and Biotechnology*, 27:1231-1240.
- Harborne, J. B. 1987. *Phytochemical Methods: A Guide to Modern Techniques of Plant Analysis*. Second edition. Springer Science & Business Media. New York.

- Havaux, M. 2014. Carotenoid Oxidation Products as Stress Signals in Plants. *The plant journal*, 79(4):597-606.
- Hayat, S., Hayat, Q., Alyemini, M. N., Wani, A. S., Pichtel, J., and Ahmad, A. 2012. Role of Proline Under Changing Environments: A Review. *Plant Signaling & Behavior*, 7(11):1456–1466.
- Hepworth, J., Caine, R. S., Harrison, E. L., Sloan, J., and Gray, J. E. 2015. Manipulating Stomatal Density Enhances Drought Tolerance Without Deleterious Effect on Nutrient Uptake. *New Phytologist*, 208(2):336–341.
- Hu, F., Zhang, Y., and Guo, J. 2023. Effects of Drought Stress on Photosynthetic Physiological Characteristics, Leaf Microstructure, and Related Gene Expression of Yellow Horn. *Plant Signaling & Behavior*, 18(1): e2215025-3-10.
- Haryadi, D., Husna, Y., dan Sri. Y. Pengaruh Pemberian Beberapa Jenis Pupuk Terhadap Pertumbuhan dan Produksi Tanaman Kahlan (*Brassic albaglobra* L.). *Jom Faperta*, 2(2):1-10.
- Hayat, S., Hayat, Q., Alyemini, M. N., Wani, A. S., Pichtel, J., and Ahmad, A. 2012. Role of Proline Under Changing Environments: A Review. *Plant Signaling & Behavior*, 7(11):1456–1466.
- Hendriyani, I. K., dan Setiari. N. 2009. Kandungan Klorofil dan Pertumbuhan Kacang Panjang (*Vigna sinensis*) pada Tingkat Penyediaan Air yang Berbeda. *Jurnal Sains & Mat*, 17(3):145-150.
- Hendriyani, I. S., Nurchayati, Y., & Setiari, N. (2018). Kandungan Klorofil dan Karotenoid Kacang Tunggak (*Vigna unguiculata* (L.) Walp.) Pada Umur Tanaman Yang Berbeda. *Jurnal Biologi Tropika*, 1(2):38-43.
- Hendry, G. A. F. and Grime. J. P. 1993. *Methods on Comparative Plant Ecology A Laboratory Manual*. Chapman and Hill. London.
- Hidayati, S. N., Syaputra, R., dan Djajadi. 2020. Pengaruh Vermikompos dan dosis N terhadap Tembakau di Kabupaten Gresik. Seminar Nasional Biologi (pp. 126-130).
- Holden, M. 1976. *Chemistry and Biochemistry of Plant Pigment*. Academic Press. London.
- Hurng, W. P. and Kao. C. H. 1994. Effect of Flooding on the Activities of Some Enzymes of Activated Oxygen Metabolism, the Levels of Antioxidants, and Lipid Peroxidation in Senescing Tobacco Leaves. *Journal Plant Growth Regulation*. 14 : 37-44.
- Indranada, H. K. 1994. *Pengelolaan Kesuburan Tanah*. Bumi Aksara. Jakarta.
- Integrated Taxonomic Information System. 2021. *Nicotiana tabacum* L. Diakses pada tanggal 21 Maret 2024 dari ITIS - Report: *Nicotiana Tabacum*
- Irawan, D., Irsal, I., dan Haryati, H. 2015. Respons Pertumbuhan Tembakau Deli (*Nicotiana tabacum* L.) Terhadap Pemberian Pupuk Nitrogen dan Zeolit. *Jurnal Agroekoteknologi Universitas Sumatera Utara*, 3(3):104830.

- Jaleel, C. A., Gopi, R., Sankar, B., Gomathinayagam, M., and Panneerselvam, R. 2008. Differential Responses in Water Use Efficiency in Two Varieties of *Catharanthus Roseus* Under Drought Stress. *Comptes Rendus Biologies*, 331(1):42-47.
- Kadioglu, A., Terzi, R., Saruhan, N., and Saglam, A. 2012. Current Advances in the Investigation of Leaf Rolling Caused by Biotic and Abiotic Stress Factors. *Plant Science*. 182:42-48.
- Kaur, G., Singh, S., and Kumar, A. 2021. Drought Stress-Induced Physiological and Biochemical Changes in Plants: A review. *Plant Physiology Reports*, 26(1):1-17.
- Khamiel, M. 2020. Dinas Tanaman Pangan, Holtikultura dan Perkebunan, Kabupaten Situbondo, Jawa Timur. Diakses pada tanggal 15 Juli 2025 dari https://cybex.id/artikel/94851/pemupukan-pada-tanaman-tembakau/?utm_source=chatgpt.com
- Khan, H., Uslu, Ö. S., and Gedik, O. 2024. Impacts of Climate Change on the Productivity of Tobacco Crop in Pakistan. *International Journal of Advanced Natural Sciences and Engineering Researches*. 8(6):137-143.
- Khan, N., Ali, S., Tariq, H., Latif, S., Yasmin, H., Mehmood, A., and Shahid. M. A. 2020. Water Conservation and Plant Survival Strategies of Rhizobacteria Under Drought Stress. *Agronomy*, 10(11):1683.
- Khan, R., Ma, X., Shah, S., Wu, X., Shaheen, A., Xiao, L., Wu, Y., and Wang, S. 2020. Drought-hardening Improves Drought Tolerance in *Nicotiana Tabacum* at Physiological, Biochemical, and Molecular Levels. *BMC Plant Biol* 20(486):1-19.
- Kijowska-Oberc, J., Dylewski, Ł., and Ratajczak, E. 2023. Proline Concentrations in Seedlings Of Woody Plants Change with Drought Stress Duration and are Mediated by Seed Characteristics: a Meta-Analysis. *Scientific Reports*, 13:15157
- Kishore, K. 2014. Monograph of Tobacco (*Nicotiana tabacum*), *Indian Journal of Drugs*, 2(1):5-23.
- Kong, L., Xie, Y., Hu, L., Si, J., and Wang, Z. 2017. Excessive Nitrogen Application Dampens Antioxidant Capacity and Grain Filling in Wheat as Revealed by Metabolic and Physiological Analyses. *Scientific Reports*, 7(1):43363.
- Kusumah, D. A., Chiangwijaya, M., and Rochman, F. 2025. Yield Performance and Stability Analysis of Tobacco New Lines in Tobacco Growing Region in East Java, Indonesia. *In IOP Conference Series: Earth and Environmental Science*, 1471(1):012068.
- Li, C., Zhang, Y., Zhang, K., Guo, D., Cui, B., Wang, X. and Huang, X. 2015. Promoting Flowering, Lateral Shoot Outgrowth, Leaf Development, And Flower Abscission In Tobacco Plants Overexpressing Cotton Flowering Locus T (FT)-like gene GhFT1. *Frontiers In Plant Science*, 6:147471.

- Li, X., Zhang, L., & Wang, Y. 2022. Effects Of Drought Stress On Photosynthesis And Growth Of Tobacco Plants. *Journal of Plant Physiology*, 268:153558.
- Lisuma, J. B., Semoka, J. M., and Mbwambo, A. F. 2023. Effect of Timing Fertilizer Application on leaf yield and quality of tobacco. *Heliyon*, 9(9):1-8.
- Liu, M., Liu, X., Song, Y., Hu, Y., Yang, C., Li, J., Jin, S., Gu, K., Yang, Z., Huang, W., Su, J., and Wang, L. 2024. Tobacco Production Under Global Climate Change: Combined Effects of Heat and Drought Stress and Coping Strategies. *Frontiers in Plant Science*, 15:1489993.
- Liu, R. X., Zhou, Z. G., Guo, W. Q., Chen, B. L., and Oosterhuis, D. M. 2008. Effects of N Fertilization on Root Development and Activity of Water-Stressed Cotton (*Gossypium hirsutum* L.) Plants. *Agricultural Water Management*, 95(11):1261-1270.
- Liunokas, A. B. dan Billik, A. H. S. 2021. Pengembangan Buku Ajar Karakteristik Morfologi Tumbuhan untuk Meningkatkan Kemampuan Mahasiswa dalam Mengidentifikasi Jenis Tumbuhan. *Jurnal Basicedu*, 5(6):5885–5891.
- Lynch, J. P. 2019. Root Phenotypes for Improved Nutrient Capture: An Underexploited Opportunity for Global Agriculture. *New phytologist*, 223(2):548-564.
- Machado, J., Vasconcelos, M. W., Soares, C., Fidalgo, F., Heuvelink, E., and Carvalho, S. M. P. 2023. Enzymatic and Non-Enzymatic Antioxidant Responses of Young Tomato Plants (cv. Micro-Tom) to Single and Combined Mild Nitrogen and Water Deficit: Not The Sum of the Parts. *Antioxidants*, 12:375.
- Macková, H., Hronková, M., Dobrá, J., Turečková, V., Novák, O., Lubovská, Z., Motyka, V., Haisel, D., Hájek, T., Prášíl, I. T., Gaudinová, A., Štorchová, H., Ge, E., Werner, T., Schmülling, T., and Vanková, R. 2013. Enhanced Drought and Heat Stress Tolerance of Tobacco Plants With Ectopically Enhanced Cytokinin Oxidase/Dehydrogenase Gene Expression. *Journal of experimental botany*, 64(10):2805-2815.
- Maisura, Chozin, M. A., Lubis, I., Junaedi, A., and Ehara, H. 2014. Some Physiological Character Responses of Rice under Drought Conditions in a Paddy System. *Journal of ISSAAS*, 20(1):104-114.
- Maleta, H. S., Indrawati, R., Limantara, L. and Brotosudarmo, T. H. P. 2018. Ragam Metode Ekstraksi Karotenoid dari Sumber Tumbuhan dalam Dekade Terakhir (Telaah Literatur). *Jurnal Rekayasa Kimia & Lingkungan*, 13(1):40-50.
- Marchetti, R., Castelli, F., and Contillo, R. 2006. Nitrogen Requirements for Flue-Cured Tobacco. *Agronomy journal*, 98(3):666-674.
- McElrone, A. J., Choat, B., Gambetta, G. A., and Brodersen, C. R. 2013. Water Uptake and Transport in Vascular Plants. *Nature Education Knowledge*, 4(5):1-13.

- Miftahudin, Putri, R.E., and Tatik, C. 2020 . Vegetatif Morphophysiological Responses of Four Rice Cultivars to Drought Stress. *BIODIVERSITAS*, 21(8):3727-3734.
- Mullan, D. and Pietragalla, J. 2012. Leaf Relative Water Content. *Physiological Breeding II: A Field Guide to Wheat Phenotyping*, 25:25-35.
- Müller, P., Li, X. P., and Niyogi, K. K. 2011. Non-Photochemical Quenching. *Plant Physiology*, 157(3):1480-1492.
- Ngibad, K., Muadifah, A., Triarini, L. J., Amalia, L. R., and Damayanti, N. K. 2021. A Review of Application of Natural Products as Fungicides for Chili Potential Plants as Fungicide for Chili Alternative. *Environmental and Toxicology Management*, 1(2):9-22.
- Noor, H., Ding, P., Ren, A., Sun, M., & Gao, Z. 2023. Effects of Nitrogen Fertilizer on Photosynthetic Characteristics and Yield. *Agronomy*, 13(6):1550.
- Nugroho, K.W. dan Yuliasmara, F. 2012. Penggunaan Metode Scanning untuk Pengukuran Luas Daun Kakao. *Warta Pusat Penelitian Kopi dan Kakao Indonesia*, 24(1):5-8.
- Nur'aini N, Rachmawati D. 2022. Physiological Response and Growth of Soybean [*Glycine max* (L.) Merr.]'Dega 1' in Different Water Availability. *Biogenesis: Jurnal Ilmiah Biologi*, 10(1): 89–97.
- Nurhidayati, T., Purnobasuki, H., dan Hariyanto, S. 2019. *Tanaman Tembakau pada Cekaman Genangan*. Penerbit Deepublish. Sleman.
- Nurrohman, E., Zubaidah, S., & Kuswanto, H. 2017. Effect of Nitrogen Dosage (N) on Morphology of Soybean Strains (*Glycine max* (L.) Merr) Hold Bemisia tabaci. *Bioedukasi Universitas Jember*, 15(2):13-17.
- Oguz, M.C., Aycan, M., Oguz, E., Poyraz, I., and Yildiz, M. 2022. Drought Stress Tolerance in Plants: Interplay of Molecular, Biochemical and Physiological Responses in Important Development Stages. *Physiologia*, 2(4):180-197.
- Oner, F., 2024. Effects of Nitrogen Doses on Stomatal Characteristics, Chlorophyll Content, and Agronomic Traits in Wheat (*Triticum aestivum* L.). *PeerJ*, 12:e18792.
- Panda, D., Mishra, S.S. and Behera, P.K. 2021. Drought Tolerance in Rice: Focus on Recent Mechanisms and Approaches. *Rice Science*, 28(2): 119–132.
- Parveen, A., Liu, W., Hussain, S., Asghar, J., Perveen, S., and Xiong, Y. 2019. Silicon Priming Regulates Morpho-Physiological Growth and Oxidative Metabolism in Maize under Drought Stress. *MDPI*, 8(431): 1-14.
- Poorter, H., Niklas, K. J., Reich, P. B., Oleksyn, J., Poot, P., and Mommer, L. 2012. Biomass Allocation to Leaves, Stems and Roots: Meta-Analyses of Interspecific Variation and Environmental Control. *New Phytologist*, 193(1):30–50.

- Prabawaningrum, D., Kasmiyati, S., and Mahardika, A., 2020. Kandungan Pigmen dan Aktivitas Antioksidan pada Tanaman *Celosia plumosa* Bunga Merah dan Kuning. *Buletin Anatomi dan Fisiologi*, 5(2):119-128.
- Putri, A. E., Ernawati, E., Priyambodo, P., Agustrina, R., dan Chrisnawati, L. 2022. Klorofil Sebagai Indikator Tingkat Toleransi Kekeringan Kecambah Padi Gogo Varietas Lokal Lampung Lumbang Sewu Cantik. *Biota : Jurnal Ilmiah Ilmu-Ilmu Hayati*, 7(2):142-150.
- Qiu, Z., Wu, X., Zhang, J. and Huang, C. 2017. High Temperature Enhances the Ability of *Trichoderma Asperellum* to Infect *Pleurotus Ostreatus* Mycelia. *PLoS One*, 12(10):1-16.
- Rabara, R.C., Tripathi, P., Reese, R. N., Rushton, D. L., Alexander, D., Timko, M. P., Shen, Q. J., and Rushton, P. J. 2015. Tobacco Drought Stress Responses Reveal New Targets for Solanaceae Crop Improvement. *BMC Genomics*, 16:1-23.
- Rakhman, R. Y. 2016. Respon Cekaman Genangan Periodik Pada Beberapa Varietas *Nicotiana tabacum*. *Tugas Akhir*. Jurusan Biologi Fakultas Matematika Dan Ilmu Pengetahuan Alam, Institut Teknologi Sepuluh Nopember Surabaya.
- Ramadhani, A.N. 2021. Respons Fisiologis dan Anatomis Akar Tanaman Padi (*Oryza sativa* L. 'Inpari 35') Terhadap Cekaman Salinitas dan Aplikasi Pupuk Silikat. *Skripsi*. Universitas Gadjah Mada.
- Rochman, F. 2012. Pengembangan Varietas Unggul Tembakau Temanggung Tahan Penyakit. *Jurnal Litbang Pert*, 32(1):30-38
- Salisbury, F. B. and Ross C. W., 1992. *Plant Physiology*. 4rd Ed. Wadsworth Publishing Company. California.
- Salsinha, Y. C. F., Indradewa, D., Purwestri, Y. A., Rachmawati, D. 2020. Selection of Drought-Tolerant Rice Cultivars from East Nusa Tenggara, Indonesia During Vegetative Stage. *BIODIVERSITAS*, 21(1): 170-178.
- Saputra, D. S., Timotiwu, P. B., dan Ermawati, E. 2015. Pengaruh Cekaman Kekeringan terhadap Pertumbuhan dan Produksi Benih Lima Varietas Kedelai. *Jurnal Agrotek Tropika*, 3(1):7-13.
- Sari, E., Noli, Z. A., dan Suwirman, S. 2018. Pengaruh Pupuk N dan Cekaman Kekeringan terhadap Pertumbuhan dan Kandungan Artemisinin Tanaman *Artemisia vulgaris* L. *Jurnal Biologi UNAND*, 6(2):71-78.
- Sarker, U., and Oba, S. 2018. Drought Stress Effects on Growth, ROS Markers, Compatible Solutes, Phenolics, Flavonoids, and Antioxidant Activity in *Amaranthus Tricolor*. *Applied Biochemistry and Biotechnology*, 186:999-1016.
- Sasmita, M. W. S., Nurhatika, S., and Muhibuddin, A. 2020. Pengaruh Dosis Mikoriza Arbuskular pada Media AMB-P0K terhadap Pertumbuhan Tanaman Tembakau (*Nicotiana tabacum* var. Somporis). *Jurnal Sains dan Seni ITS*, 8(2):43-48.

- Seleiman, M. F., Al-Suhaibani, N., Ali, N., Akmal, M., Alotaibi, M., Refay, Y., Dindaroglu, T., Abdul-Wajid, H. H and Battaglia, M. L. 2021. Drought Stress Impacts On Plants And Different Approaches To Alleviate Its Adverse Effects. *Plants*, 10(2):259.
- Senguttuvel, P., Vijayalakshmi, C., Thiagarajan, K., Sritharan, R., Geetha, S., KannanBapu, J.R. and Viraktamath, B.C. 2013. Differential Response of Rice Seedlings to Salt Stress in Relation to Antioxidant Enzyme Activity and Membrane Stability Index. *Archives of Agronomy and Soil Science*, 59(10):1359-1371.
- Setiawan, S., Tohari, T., dan Dja'far, S. 2013. Pengaruh Cekaman Kurang Air Terhadap Beberapa Karakter Fisiologis Tanaman Nilam (*Pogostemon cablin* Benth), *Industrial Crops Research Journal*, 19(3):108-116.
- Sholeh, M. dan Djumali. 2007. Respon Fisiologis Dua Galur Unggul Tembakau Virginia Rajangan terhadap Nitrogen. *Agritek*. 15(3):629–635.
- Soepriyanto, S., Sulistyawati, S., dan Purnamasari, R. T. 2021. Pengaruh Pemberian Berbagai Jenis Pupuk Nitrogen Terhadap Jumlah Klorofil Daun Kacang Tanah (*Arachis hypogaea* L.). *Jurnal Agroteknologi Merdeka Pasuruan*, 5(1):23-31.
- Su, X., F. Wei, Y. Huo, & Z. Xia. 2017. Comparative Physiological and Molecular Analyses of Two Contrasting Flue-Cured Tobacco Genotypes under Progressive Drought Stress. *Frontiers in Plant Science*, 8(827):1-13.
- Sugiura, D., Kojima, M., and Sakakibara, H. 2016. Phytohormonal Regulation of Biomass Allocation and Morphological and Physiological Traits of Leaves in Response to Environmental Changes in *Polygonum cuspidatum*. *Frontiers in Plant Science*, 7:1189.
- Suhartono, R. A. S., Zaed, dan Khoiruddin, A. 2008. Pengaruh Interval Pemberian Air terhadap Pertumbuhan dan Hasil Tanaman Kedelai (*Glycine max* (L.) Merrill) pada Berbagai Jenis Tanah. *Embryo*. 5(1):98-112.
- Sujinah, S., & Jamil, A. 2016. Mekanisme respon tanaman padi terhadap cekaman kekeringan dan varietas toleran. *Iptek tanaman pangan*, 11(1).
- Sulistyowati, Nurchayati, Y., dan Setiari, N. 2021. Pertumbuhan dan Produksi Tomat (*Lycopersicon esculentum* Mill.) Varietas Servo pada Frekuensi Penyiraman yang Berbeda. *Buletin Anatomi dan Fisiologi*, 6(1):26-34.
- Swapna, S. and Shylaraj, S. 2017. Screening for Osmotic Stress Responses in Rice Varietas Under Drought Condition. *Rice Science*. 24(5):253-263.
- Szabados, L., and Savour , A. 2010. Proline: A Multifunctional Amino Acid. *Trends in Plant Science*, 15(2):89-97.
- Taiz, L., Zeiger, E., M ller, I. M., and Murphy, A. 2015. *Plant Physiology and Development*. 6th ed. Sunderland: Sinauer Associates.
- Tripatmasari, M., Zuchri, A., dan Kurniawan, R. 2010. Pemanfaatan Ruang Tanam Antar-Tanaman Tembakau Pasca Panen dengan Penanaman Kacang Tanah dan Pemangkasan Batang Utama Tembakau. *Rekayasa*. 3(1):67-73.

- Trisilawati dan Pitono. 2012. *Mengenai Pengaruh Cekaman Defisit Air Terhadap Pembentukan Bahan Aktif Pada Purwoceng*. Balai Penelitian Tanaman Rempah Dan Obat. Bogor.
- Ullah, A., Manghwar, H., Shaban, M., Khan, A. H., Akbar, A., Ali, U., and Fahad, S. 2018. Phytohormones Enhanced Drought Tolerance In Plants: A Coping Strategy. *Environmental Science and Pollution Research*, 25:33103-33118.
- Umam, C., Putri, S.A., Milyani, J., Aurelita, S.K., Suryawati, S. dan Purwaningsih, Y. 2023. Perhitungan Luas Daun Berbasis Pemrosesan Citra Digital. *Teknotan: Jurnal Industri Teknologi Pertanian*, 17(2):115-122.
- Vankova, R., Dobra, J., and Storchova, H. 2012. Recovery from Drought Stress in Tobacco: an Active Process Associated with The Reversal of Senescence in Some Plant Parts and The Sacrifice of Others. *Plant Signaling & Behavior*, 7(1):19–21.
- Wang, H., Li, N., Li, H., Zhang, S., Zhang, X., Yan, X., Wang, Z., Yang, Y., and Zhang, S. 2023. Overexpression of NtGCN2 Improves Drought Tolerance in Tobacco by Regulating Proline Accumulation, ROS Scavenging Ability, and Stomatal Closure. *Plant Physiology and Biochemistry*, 198:107665.
- Wang, L. Q., Li, Z., Wen, S. S., Wang, J. N., Zhao, S. T., and Lu, M. Z. 2020. WUSCHEL-related Homeobox Gene PagWOX11/12a Responds To Drought Stress bEnhancing Root Elongation and Biomass Growth in Poplar. *Journal of Experimental Botany*. 71(4):1503-1513.
- Wang, N., Fu, F., Wang, H., Wang, P., He, S., Shao, H., Ni, Z., and Zhang, X. 2021. Effects of Irrigation and Nitrogen on Chlorophyll Content, Dry Matter and Nitrogen Accumulation in Sugar Beet (*Beta vulgaris* L.). *Scientific Reports*, 11(1):16651 1-9.
- Wang, Y. Z., Liu, X. W., Sun, H. Y., Zhang, X. Y., and Zhang, L. R. 2013. Effects of Water and Nitrogen on Root/Shoot Ratio and Water Use Efficiency of Winter Wheat, *Chinese Journal of Eco-Agriculture*, 21(3):282-289.
- Waraich, E. A., Ahmad, R., and Ashraf, M. Y. 2011. Role of Mineral Nutrition in Alleviation of Drought Stress in Plants. *Australian Journal of Crop Science*, 5(6):764-777.
- Wei, K., Liu, G., Wei, B., Zhang, Q., Wu, S., & Li, Z. 2025. Effects of Drought Stress on the Physiological Characteristics of Flue-Cured Tobacco during the Vigorous Growing Period. *Phyton-International Journal of Experimental Botany*, 94(4):1287-1298.
- Winarni, A. S. 2000. Pengaruh Dosis Pemupukan Urea (Co(NH₂)₂) dan Posisi Daun Terhadap Kandungan Klorofil Dan Kadar Protein Daun Selada (*Lactuca sativa* L. Var Grand rapida). *Doctoral dissertation*. Universitas Diponegoro.
- Wiratno, Siswanto, dan Trisawa. 2016. Prospek Ekstrak Daun Tembakau Sebagai Nematisida Nabati. *Buletin Tanaman Tembakau, Serat, dan Minyak Industri*, 5(2):91-96.

- Xu, Z. and Zhou, G. 2008. Responses Of Leaf Stomatal Density to Water Status and its Relationship with Photosynthesis in a Grass. *Journal of Experimental Botany*, 59(12):3317–3325.
- Xu, Z., Zhou, G., & Shimizu, H. 2010. Plant Responses to Drought and Rewatering. *Plant Signaling & Behavior*. 5(6):649–654.
- Yahya, S. H., and Dawod, K. M. 2022. Response of Grain Yield, Percent and Yield of Protein for Pure Lines of Maize and its Diallel Crosses to Nitrogen Fertilization. *International Journal of Agricultural & Statistical Sciences*, 18:1727.
- Yang, L.Y., Yang, S.L., Li, J.Y., Ma, J.H., Pang, T., Zou, C.M., He, B. and Gong, M., 2018. Effects of Different Growth Temperatures on Growth, Development, and Plastid Pigments Metabolism of Tobacco (*Nicotiana tabacum* L.) Plants. *Botanical studies*, 59:1-13.
- Yordanov, I., Stefanov, D., Krasteva, V., Gourmanova, M., and Goltsev, V. 2012. Drought Stress Responses in Plants-Molecular Biology, Physiology and Agronomical Aspects. *Paper presented at The 2nd Scientific Seminar on "Stress in plants: theoretical and applied aspects"*, Agricultural University, Plovdiv, 10 January:7-20.
- Yusniwati, Sudarsono, Aswidinnoor, H., Hendrastuti, S., dan Santoso, D. 2008. Pengaruh Cekaman Kekeringan Terhadap Pertumbuhan, Hasil dan Kandungan Prolin Daun Cabai. *JAgrista*12(1): 19-27.
- Zaman, M., Nguyen, M.L., and Blennerhassett, J.D. 2018. Nitrogen fertiliser application and environmental issues. *In Advances in Agronomy*, 153:67-150.
- Zayed, O., Hewedy, O. A., Abdelmoteleb, A., Ali, M., Youssef, M. S., Roumia, A. F., Seymour, D., and Yuan, Z. C. 2023. Nitrogen Journey in Plants: From Uptake to Metabolism, Stress Response, and Microbe Interaction. *Biomolecules*, 13(10):1443.
- Zhang, Y. N., Zhuang, Y., Wang, X. G., & Wang, X. D. 2024. Evaluation Of Growth, Physiological Response, And Drought Resistance Of Different Flue-Cured Tobacco Varieties Under Drought Stress. *Frontiers in Plant Science*, 15:1442618.
- Zhong, T., Zhang, L., Sun, S., Zeng, H., and Han, L. 2014. Effect of Localized Reduction of Gibberellins in Different Tobacco Organs on Drought Stress Tolerance and Recovery. *Plant Biotechnology Reports*, 8(5):399-408.
- Zhou, Y., Wang, X., Meng, Y., and Ma, Y. 2021. Nitrogen Use Efficiency in Plants Under Drought Stress: Challenges and Opportunities. *Journal of Integrative Agriculture*, 20(8):1986–1999.
- Zivcak, M., Brestic, M., Kalaji, H. M., and Govindjee. 2014. Photosynthetic Responses of Sun-And Shade-Grown Barley Leaves to High Light: is the Lower PSII Connectivity in Shade Leaves Associated with Protection Against Excess of Light?. *Photosynthesis Research*, 119:339-354.