DAFTAR PUSTAKA

Adam, K. P., Thiel, R., Zapp, J., & Becker, H. (1998). Involvement of the Mevalonic Acid Pathway and the Glyceraldehyde–Pyruvate Pathway in Terpenoid Biosynthesis of the Liverworts *Ricciocarpos natans* and *Conocephalum conicum*. *Archives of Biochemistry ond Biophysics*, 354 (1), 181–187.

Adin, A., Firdaus, R., Haerudin., Rokhman, F., & Harpenas, A. (2023). *A Review: TSS (True Shallot Seed) Development in Indonesia and Its Health Benefit*. Advances in Biological Science Research: Proceedings of the International Symposium Southeast Asia Vegetable 2021 (SEAVEG 2021). Yogyakarta: Ministry of Agriculture Republic Indonesia, p. 208–223.

Allison, B., Allenby, M., Bryant, S. S., et al. (2016). Antibacterial activity of fractions from three Chumash medicinal plant extracts and in vitro inhibition of the enzyme enoyl reductase by the flavonoid jaceosidin. *Natural Product Research*, 31(6), 1-6. DOI: 10.1080/14786419.2016.1217201

Ananthi, P. & Kumari, B.D.R. (2013). Gas Chromatography-Mass Spectrometry Analysis Of Methanolic Seed And Root Extracts Of Rorippa indica L.. *International Journal of ChemTech Research*, 5(1), 299-306.

Arrubla Velez, J.P., Tabares, S.U., & Duran, N.P. (2023). HS-SPME GC/MS Volatile Profile of The Onion Allium fistulosum L. Variety Pereirana, Cultivated in Colombia. *Revista Facultad Nacional de Agronomia*, 77(1), 10611-10624. Doi: 10611-10624. 2024

Arsana, I. N., Juliasi, N. K. A., Widyantari, A.A., Suriani, N. L., & Manto, A. (2022). GC-MS Analysis of the Active Compound in Ethanol Extracts of White Pepper (*Piper nigrum* L.) and Pharmacological Effects. *Cell. Mol. Biomed. Rep.*, 2(3), 151-161. DOI: https://doi.org/10.55705/cmbr.2022.351720.1051

Badan Pusat Statistik, 2023. *Produksi Tanaman Sayuran 2021-2022*. https://www.bps.go.id/id/statistics-table/2/NjEjMg==/produksi-tanaman-sayuran.html [diakses pada 24 Februari 2024]

Bala, S., Asthir, B., & Bains, N.S. (2016). Syringaldazine Peroxidase Stimulates Lignification by Enhancing Polyamine Catabolism in Wheat during Heat and Drought Stress. *Cereal Research Communications,* 44(4), 561–571. DOI: 10.1556/0806.44.2016.028

Benhamou, N. and Belanger, R.R. (1998). Benzothiadiazole-Mediated Induced Resistance to *Fusarium oxysporum* f. sp. *radicis-lycopersici* in Tomato, *Plant Physiol.*, 118(), 1203–1212

Bert, M., Baudouin, G., Tillequin, F., & Koch, M. (1985) Pagicerine—A New Indole Alkaloid from *Pagiantha cerifera* (Pancher & Sébert) Markgraf (*Apocynaceae*). *Heterocycles*, **23**: 2505–2508.

Bhagavan, N.V., & Ha, C. E. (Ed). (2015). *Chapter 12 - Carbohydrate Metabolism I: Glycolysis and the Tricarboxylic Acid Cycle, Essentials of Medical Biochemistry* (2nd ed). Cambridge, Massachusetts, United States: Academic Press.

Bhambhani, S.; Kondhare, K.R.; Giri, A.P. (2021). Diversity in Chemical Structures and Biological Properties of Plant Alkaloids. *Molecules*, 26,3374. DOI: 10.3390/molecules26113374.

Baky, M. H., Shamma, S. N., Khalifa, M. R., & Farag, M. A. (2022). How Does Allium Leafy Parts Metabolome Differ in Context to Edible or Inedible Taxa? Case Study in Seven Allium Species as Analyzed Using MS-Based Metabolomics, *Metabolites*, 13(18).

Cahyaningrum, H., Nurhayati, Nurmili, Suneth, R.F., Sirajuddin, Gazali, I., Hafid, A., Lenin, I., dan Meilin, A. Penyakit Moler pada Bawang Merah. *Jurnal Media Pertanian*, 8(2), 152-155. Doi: 10.33087/jagro.v8i2.213.

Carasek, E., Scur, R., & Bernardi, G. (2023). High-Throughput Analytical Methods Employing Microextraction Techniques: Towards Fast Analyses Lasting A Few Seconds. *Advances in Sample Preparation*, 8 (00095). Doi: https://doi.org/10.1016/j.sampre.2023.100095)

Chakraborty, A. J., Uddin, T. M., Matin Zidan, B. M. R., Mitra, S., Das, R., Nainu, F., Dhama, K., Roy, A., Hossain, M. J., Khusro, A., & Emran, T. B. (2022). *Allium cepa*: A Treasure of Bioactive Phytochemicals with

Prospective Health Benefits. *Evidence-based Complementary and Alternative Medicine Journal*, 2022(4586318), 1-27. Doi: https://doi.org/10.1155/2022/4586318

Chakraborty, P., Biswas, A., Dey, S., Bhattacharjee, T., & Chakrabarty, S. (2023). Cytochrome P450 Gene Families: Role in Plant Secondary Metabolites Production and Plant Defense. *Journal of xenobiotics*, *13*(3), 402–423. https://doi.org/10.3390/jox13030026

Chang, X., Alderson, P.G., & Wright, C.J. (2009). Enhanced UV-B Radiation Alters Basil (*Ocimum basilicum* L.) Growth and Stimulates the Synthesis of Volatile Oils. *Journal of Horticulture and Forestry*, 1(2), 027-031.

Chen, G., Komatsuda, T., Ma, J.F., Nawrath, C., *et al*. (2011). An ATP-Binding Cassette Subfamily G Full Transporter is Essential for The Retention of Leaf Water in Both Wild Barley and Rice. *Proc. Natl. Acad. Sci. U.S.A.*, 108 (30), 12354-12359. DOI: https://doi.org/10.1073/pnas.1108444108

Christensen, J. H., Overney, S., Rohde, A., Diaz, W. A., Bauw, G., Simon, P., Van Montagu, M., & Boerjan, W. (2001). The syringaldazine-oxidizing peroxidase PXP 3-4 from poplar xylem: cDNA isolation, characterization and expression. *Plant molecular biology*, *47*(5), 581–593. https://doi.org/10.1023/a:1012271729285

D'Auria, M & Racioppi, R. (2017). HS-SPME-GC-MS Analysis of onion (Allium cepa L.) and shallot (Allium ascalonicum L.). *Food Research*, 1(5): 161 – 165.

Dahpour, A., Rahdari, P., & Sobati, Z., (2012). Chemical composition of essential oil, antibacterial activity and brine shrimp lethality of ethanol extracts from Sedum pallidum. Academic Journals, 6(16), 3105-3109. https://doi.org/10.5897/JMPR11.1270

Davey, M. P., Susanti, N. I., Wargent, J. J., Findlay, J. E., Paul Quick, W., Paul, N. D., & Jenkins, G. I. (2012). The UV-B Photoreceptor UVR8 Promotes Photosynthetic Efficiency in *Arabidopsis thaliana* Exposed to Elevated Levels of UV-B. *Photosynthesis Research*, 114(2), 121–131. Doi: https://doi.org/10.1007/s11120-012-9785-y

Devi, R. B., Barkath, T. N., Vijayaraghavan, P., & Rejiniemon, T.S. (2018). GC-MS Analysis of Phytochemical from Psidium guajava Linn Leaf Extract and

Their In Vitro Antimicrobial Activities. *International Journal of Pharmacy and Biological Sciences*, 8(1), 583-589

Diaz-Muñoz, G., Miranda, I. L., Sartori, S.K., de Rezende, D. C., Diaz, M. A.N. (2018). Studies in Natural Products Chemistry Chapter 11 - Anthraquinones: An Overview. 58(). DOI: https://doi.org/10.1016/B978-0-444-64056-7.00011-8

Dotto, M., Gómez, M. S., Soto, M. S. & Casati, P. (2018). UV-B Radiation Delays Flowering Time Through Changes in The PRC2 Complex Activity and miR156 Levels in *Arabidopsis thaliana*. *Plant Cell Environment*. 41, 1394–1406. Doi: https://doi.org/10.1111/pce.13166

Dung, L., Audenaert, K., & Haesaert, G. (2021). Fusarium Basal Rot: Profile of An Increasingly Important Disease in *Allium* spp.. *Tropical Plant Pathology*, 46. Doi: 10.1007/s40858-021-00421-9.

El-Newary S.A., Fouad, R., Mohammed, N., *et al*. (2021). Hepatoprotective Effects of Tagetes Lucida Root Extract in Carbon Tetrachloride-Induced Hepatotoxicity in Wistar Albino Rats Through Amelioration of Oxidative Stress. *Pharmaceutical Biology*, 59(1), 986-997. DOI: 10.1080/13880209.2021.1949024

Ezez, D., Mekonnen, N., & Tefera, M. (2023). Phytochemical Analysis of *Withania somnifera* Leaf Extracts by GC-MS and Evaluating Antioxidants and Antibacterial Activities. *International Journal of Food Properties*, 26(1), 581–590. https://doi.org/10.1080/10942912.2023.2173229.

Fardhani, D. M., A. D. Kharisma., T. Kobayashi., N. A. Arofatullah., M. Yamada, S.Tanabata., Y. Yokoda., A. Widiastuti., and T. Sato. 2022. Ultraviolet-B Irradiation Induces Resistance Against Powdery Mildew in Cucumber (*Cucumis sativus* L.) Through A Different Mechanism than That of Heat Shock-Induced Resistance. Agronomy 12: 1-13

Fedina, I., Hidema, J., Velitchkova, M., Georgieva, K., and Nedeva, D. 2010. UV-B induced stress responses in three rice cultivars. Biol. Plant. 54(3):571-574.

Fierro, A. C., Leroux, O., De Coninck, B., Cammue, B. P., Marchal, K., Prinsen, E., Van Der Straeten, D., & Vandenbussche, F. (2015). Ultraviolet-B Radiation Stimulates Downward Leaf Curling in *Arabidopsis thaliana*. *Plant Physiology*

and Biochemistry:PPB, 93, 9–17. Doi: https://doi.org/10.1016/j.plaphy.2014.12.012

Frąckowiak, P., Pospieszny, H., Smiglak, M., & Obrępalska-Stęplowska, A. (2019). Assessment of the Efficacy and Mode of Action of Benzo(1,2,3)-Thiadiazole-7-Carbothioic Acid S-Methyl Ester (BTH) and Its Derivatives in Plant Protection Against Viral Disease. *International Journal of Molecular Sciences*, 20(7), 1598. https://doi.org/10.3390/ijms20071598.

Fu, X., Zhou, Y., Zeng, L., Dong, F., Mei, X., Liao, Y., Watanabe, N., Yang, Z. (2017). Analytical Method for Metabolites Involved in Biosynthesis of Plant Volatile Compounds. *Royal Society of Chemistry Advances*, 7(31), 19363–19372. doi:10.1039/C7RA00766C

Galingging R.Y., Sobir, Aisyah, S.I., and Maharijaya, A. (2018). GC-MS Profiling of Volatile Compounds from Fifteen Different Varieties of Indonesian Shallot Grown in Tidal Swampland. *Rasayan Journal Chemistry*, 11(2), 575-581. Doi: 10.31788/RJC.2018.1123001

GeneAid. (2017, March 22). Total RNA Mini Kit (Plant) Protocol. https://www.geneaid.com/Total-RNA/RPD. Diakses pada 16/07/2024 [diakses 16 Juli 2024]

Goldberg, R., Catesson, A. M., & Czaninski, Y. (1983). Some Properties of Syringaldazine Oxidase, a Peroxidase Specifically Involved in the Lignification Processes. *Zeitschrift für Pflanzenphysiologie*, 110(3), 267-279.

Guo, Q., Li, Y., Lou, Y., Shi, M., Jiang, Y., Zhou, J., Sun, Y., Xue, Q., & Lai, H. (2019*). Bacillus amyloliquefaciens* Ba13 Induces Plant Systemic Resistance and Improves Rhizosphere Microecology Against Tomato Yellow Leaf Curl Virus Disease. *Applied Soil Ecology*, 137, 154–166. Doi: 10.1016/j.apsoil.2019.01.015

Gutiérrez-Sánchez, A., Plasencia, J., Monribot-Villanueva, J. L., Rodríguez-Haas, B., Ruíz-May, E., Guerrero-Analco, J. A., & Sánchez-Rangel, D. (2023). Virulence factors of the genus Fusarium with targets in plants. Microbiological research, 277, 127506. https://doi.org/10.1016/j.micres.2023.127506

Hadiwiyono, Fitriana, F., Poromarto, S.H., dan Cahyani, V.R. (2023). Kompatibilitas dan Efektivitas *Azospirillum* dan *Streptomyces* untuk Mengendalikan Penyakit Moler pada Bawang Merah di Alfisol Jumantono. *Jurnal Agrikultura*, 34(3), 495-508.

Hamidou, S.K., Kadidia, K., Alassane, O., Mohamed, S., Itolou, K.A., Harouna, S., & Claudine, C. (2022). Pathogenic Characterization of Three *Fusarium* Species Associated with Onion (*Allium cepa* L.) in Burkina Faso. *International Journal of Phytopathology*, 11(03), 267-276. Doi: 10.33687/phytopath.011.03.4327

Hammerbacher, A., Coutinho, T.A., & Gershenzon, J. (2019). Roles of Plant Volatiles in Defence Against Microbial Pathogens and Microbial Exploitation of Volatiles. *Plant Cell Environment*, 42, 2827-2843. Doi: 10.1111/pce.13602

Harish, J., Jambhulkar. P.P., Bajpai, R., Arya, M., Babele, P.K., Chaturvedi, S.K., Kumar, A., & Lakshman, D.K. (2023). Morphological Characterization, Pathogenicity Screening, and Molecular Identification of *Fusarium spp*. Isolates Causing Post-flowering Stalk Rot in Maize. *Frontier in Microbiology*, 31(14),1121781. Doi: 10.3389/fmicb.2023.1121781.

Hawayanti, E., Ibrahim, J.T., Sutanto, A., & Muchsiri, M. (2024). Impact of Suboptimal Land on Shallot Plant Growth: Mini Review. *Environmental & Agriculture Management*, 1(1), 17-28. Doi: https://doi.org/10.31102/eam.2024.1.1.17-28

Hesham, A.E., Upadhyay, R. S., Sharma, G. D., Manoharachary, C., & Gupta, V. K. (2020). *Systemic Acquired Resistance (SAR) and Induced Systemic Resistance (ISR): Role and Mechanism of Action Against Phytopathogens.* Chapter 20. Fungal Biotechnology and Bioengineering. 457–470. Doi:10.1007/978-3-030-41870-0_20

Höfer R., Briesen I., Beck M., Pinot F., Schreiber L., Franke R. (2008). The Arabidopsis Cytochrome P450 CYP86A1 Encodes A Fatty Acid Ω-Hydroxylase Involved in Suberin Monomer Biosynthesis. *J. Exp. Bot.*, 59(), 2347–2360. Doi: 10.1093/jxb/ern101.

Höll, J., Lindner, S., Walter, H., Joshi, D., Poschet, G., Pfleger, S., Ziegler, T., Hell, R., Bogs, J., & Rausch, T. (2019). Impact of Pulsed UV-B Stress Exposure on Plant Performance: How Recovery Periods Stimulate Secondary Metabolism While Reducing Adaptive Growth Attenuation. *Plant, Cell & Environment*, 42(3), 801–814. Doi: https://doi.org/10.1111/pce.13409.

Houtsmuller, U.M.T. (1981). Columbinic Acid, A New Type of Essential Fatty Acid. *Progress in Lipid Research*, 20 (), 889-896. DOI: https://doi.org/10.1016/0163-7827(81)90166-1.

Huang, X.Q., & Dudareva, N. (2023). Plant Specialized Metabolism. *Current Biology*, 33(11), 473-478. Doi: https://doi.org/10.1016/j.cub.2023.01.057.

Inayati, A., Aini, L. Q., & Yusnawan, E. (2022). Growth Performance and Metabolic Changes in Susceptible Mung Bean [*Vigna radiata* (L) *Wizleczek*] during Interaction with *Rhizoctonia solani* and *Trichoderma virens*. *Legume Research-An International Journal*. DOI: 10.18805/LRF-712

Jaman, Z., Karim, M. R., Dumenyo, K., et al. (2014). Antibacterial Activities of New Schiff Bases and Intermediate Silyl Compounds Synthesized from 5-Substituted-1,10-phenanthroline- 2,9-dialdehyde. *Advances in Microbiology*, 4(15), 1140-1153. DOI: https://doi.org/10.4236/AIM.2014.415124

Jin, M., Hu, S., Wu, Q., Feng, X., Zhang, Y., Jiang, Q., Ma, J., Qi, P., Chen, G., Jiang, Y., Zheng, Y., Wei, Y., & Xu, Q. (2024). An effector protein of Fusarium graminearum targets chloroplasts and suppresses cyclic photosynthetic electron flow. *Plant physiology*, *196*(4), 2422–2436. https://doi.org/10.1093/plphys/kiae538

Johnson, C.B., Kirby, J., Naxakis, G., & Pearson, S. (1999). Substantial UV-B-mediated Induction of Essential Oils in Sweet Basil (Ocimum basilicum L.) *Phytochemical*, 51, 507-510

Jolliffe, I. T., & Cadima, J. (2016). Principal component analysis: a review and recent developments. *Philosophical transactions. Series A, Mathematical, physical, and engineering sciences*, *374*(2065), 20150202. DOI: https://doi.org/10.1098/rsta.2015.0202

Kachroo A. & Robin G.P. (2013). Systemic Signaling During Plant Defense. *Current Opinion in Plant Biology*, 16(4), 527–533. Doi: https://doi.org/10.1016/j.pbi.2013.06.019

Kalimuthu, K., Prabakaran, R., & Preetha, V. (2014). Phytochemical Screening and GC-MS Studies on the Ethanolic Extract of *Turnera Ulmifolia* L. *International Journal of Pharmaceutical and Phytopharmacological Research*, 4(3), 179-181.

Kamaei, R., Kafi, M., Tavakkol Afshari, R., Shafaroudi, S., & Nabati, J. (2024). Physiological and Molecular Changes of Onion (*Allium cepa* L.) Seeds Under Different Aging Conditions. *BMC Plant Biology*, 24(1), 85. Doi: https://doi.org/10.1186/s12870-024-04773-7

Kamel, R.M., El-kholy, M.M., Tolba, N.M. et al. (2022). Influence of germicidal ultraviolet radiation UV-C on the quality of Apiaceae spices seeds. *Chem. Biol. Technol. Agric*, 9(89). DOI: https://doi.org/10.1186/s40538-022-00358-4

Kamel, D. G., Mansour, A. I. A., El-diin, M. A. H. N., Hammam, A. R. A., Mehta, D., & Abdel-Rahman, A. M. (2022). Using Rosemary Essential Oil as A Potential Natural Preservative during Stirred-like Yogurt Making. *Foods*, 11(14). DOI: https://doi.org/10.3390/foods11141993)

Kamle, M. *et al*. "Chapter 20 Systemic Acquired Resistance (SAR) and Induced Systemic Resistance (ISR): Role and Mechanism of Action Against Phytopathogens". *Fungal Biotechnology and Bioengineering*. Eds. A. E.-L Hesham et al. Swizterland: Springer, 2020. 457-470.

Kaur, M., Sharma, S., Kaur, R., Kaur, J., & Singh, A. (2023). Effect of UV-B irradiation on bioconversion of ergosterol to vitamin D2 and its impact on nutritional properties of oyster mushroom (Pleurotus florida). *International Journal of Food Science & Technology*, 58(10), 5114-5120. DOI: https://doi.org/10.1111/ijfs.16610.

Kim, S. H., Lee, S. Y., Hong, C. Y., Gwak, K. S., Park, M. J., Smith, D., & Choi, I. G. (2013). Whitening and Antioxidant Activities of Bornyl Acetate and Nezukol Fractionated from Cryptomeria Japonica Essential Oil. *International*

journal of cosmetic science, *35*(5), 484–490. https://doi.org/10.1111/ics.12069

Krishnaveni, M., Kalaivani, M., Banu, C. R., & Kumari, G. K. (2015). GC-MS/MS Study of *Parthenium hysterophorus* L (N. Am) Stem, Antimicrobial Activity. *Research Journal of Pharmacy and Technology*, 8(5), 517-519. DOI: 10.5958/0974-360X.2015.00086.4

Kumari, R. & Majeti, P. (2013). Medicinal Plant Active Compounds Produced by UV-B Exposure in Sustainable Agriculture Reviews. London: Springer Nature

Ley, J. P., Engelhart, K., Bernhardt, J., & Bertram, H. J. (2002). 3,4-Dihydroxymandelic acid, a noradrenalin metabolite with powerful antioxidative potential. *Journal of agricultural and food chemistry*, *50*(21), 5897–5902. https://doi.org/10.1021/jf025667e

Li, H., Nakajima, Y., Nango, E., Owada, S., Yamada, D. (2024). Oxygen-evolving photosystem II structures during S1–S2–S3 transitions. *Nature*, 626 (). DOI: https://doi.org/10.1038/s41586-023-06987-5.

Li, Y. (2023). Analytical Methods for The Analysis of Volatile Natural Products. *Natural Product Reports*, 40, 922-956

Lingfa, D. L., Tirumala, A., & Ankanagari, S. (2024). GC-MS Profiling of Anticancer and Antimicrobial Phytochemicals in The Vegetative Leaf, Root, and Stem of *Withania somnifera* (L.). *International Journal of Secondary Metabolite*, Vol. 11, No. 1, 63–77. DOI: https://doi.org/10.21448/ijsm.1256932

Liu, G.,Wang, Y., Hu, L., & He, H. (2022). Characterization of the Volatile Compounds of Onion with Different Fresh-Cut Styles and Storage Temperatures. *Foods*, 11, 3829. https://doi.org/10.3390/foods11233829

Liu, X., Gong, Q., Zhao, C., Wang, D., Ye, X., Zheng, G., Wang, Y., Cao, J., & Sun, C. (2022). Genome-wide analysis of cytochrome P450 genes in *Citrus clementina* and characterization of a CYP gene encoding flavonoid 3'-hydroxylase. *Horticulture research*, *10*(2), uhac283. https://doi.org/10.1093/hr/uhac283

Lo Giudice, V., Faraone, I., Bruno, M. R., Ponticelli, M., Labanca, F., Bisaccia, D., Massarelli, C., Milella, L., & Todaro, L. (2021). Olive Trees By-Products as Sources of Bioactive and Other Industrially Useful Compounds: A Systematic Review. Molecules, 26(16), 5081. https://doi.org/10.3390/molecules26165081

Loannidins, D., Bonner, L., & Jhonson., C. (2002). UV-B is Required for Normal Development of Oil Glands in *Ocimum basilicum* L. (Sweet Basil). *Annals of Botany*, 90, 453-460

Matsuse, K., Abdelrahman, M., Ariyanti, N.A., Tsuji, F., Hirata, S., Nakajima, T., Sato, M., Hirai, M.Y., Manochai, B., and Shigyo, M. (2022). Targeted Metabolome Profiling of Indonesian Shallots and Japanese Long-Day/Short-Day Bulb Onions. *Journal of Metabolites*, 12(12): 1-18.

McCombe, C.L., Greenwood, J.R., Solomon, P.S., & Williams, S.J. (2022). Molecular Plant Immunity Against Biotrophic, Hemibiotrophic, and Necrotrophic Fungi. *Essay in Biochemistry*, 66, 581-593. Doi:https://doi.org/10.1042/EBC20210073Métraux, J.P. (2013). *Systemic Acquired Resistance. Brenner's Encyclopedia of Genetics, 627–629.* doi:10.1016/b978-0-12-374984-0.01509-

Meyer, P., de Poel, BV., & De Coninck, B. 2021. UV-B Light and Its Application Potential to Reduce Disease and Pest Incidence in Crops. *Horticulture Research*, 8(194): 1-20. Doi: https://doi.org/10.1038/s41438-021-00629-5

Miao, T., Li, D., Huang, Z., Huang, Y., Li, S., & Wang, Y. (2021). Gibberellin Regulates UV-B-Induced Hypocotyl Growth Inhibition in *Arabidopsis thaliana*. *Plant signaling & behavior*, 16(11), 1966587. DOI: https://doi.org/10.1080/15592324.2021.1966587

Mmbando, GD. 2023. The Recent Relationship Between Ultraviolet-B Radiation and Biotic Resistance in Plants: A Novel Non-chemical Strategy for Managing Biotic Stresses. *Plant Signaling & Behavior*, 18(1). doi: https://doi.org/10.1080/15592324.2023.2191463

Nashnoush, M. & Rodgers, J. (2020). The Non-thermal Effect of UV-B Irradiation on Onion Growth. Journal of Emerging Investigators. 3, 1-6. Doi: 10.59720/19-091.

Nehela, Y., Taha, N. A., Elzaawely, A. A., Xuan, T. D., A. Amin, M., Ahmed, M. E., & El-Nagar, A. (2021). Benzoic Acid and Its Hydroxylated Derivatives Suppress Early Blight of Tomato (Alternaria solani) via the Induction of Salicylic Acid Biosynthesis and Enzymatic and Nonenzymatic Antioxidant Defense Machinery. *Journal of Fungi*, 7(8), 1-26. DOI: https://doi.org/10.3390/jof7080663

Niu, X., Wang, Z., Wang, C., & Wang, H. (2023). Dibenzylideneacetone Overcomes *Botrytis cinerea* Infection in Cherry Tomatoes by Inhibiting Chitinase Activity. *Journal of agricultural and food chemistry*, *71*(49), 19422–19433. https://doi.org/10.1021/acs.jafc.3c05695

Nolvachai, Y., Amaral Michelle, S.S., Herron, R., & Marriott, P. J. (2023). Solid Phase Microextraction for Quantitative Analysis – Expectations Beyond Design?, *Green Analytical Chemistry*, 4 (100048). Doi: https://doi.org/10.1016/j.greeac.2022.100048.

Nuringtyas, T.R., 2024. *Workshop Multivariate Data Analysis pada Riset Bidang Pertanian dan Pangan*. **Materi Kuliah: Metabolomik**. Yogyakarta. Universitas Gadjah Mada.

Oluba, O.M., Mbamara, D.F.O., & Akpor, O. (2021). Effects of drying methods on compositional characterization and functional characteristics of Blighia sapida aril oil. *Oilseeds & Fats Crops and Lipid*, 28(3), 1-10. DOI: 10.1051/ocl/2020064.

Pan, Qi; Gao, Linkun; Li, Jie; Yan, Jianlin; Zhang, Long; Liu, Jiyan; Sun, Mengying; &Sun, Lanyi. (2019). Process Optimization and Plant-Wide Control for Producing 1,3-Dioxolane from Aqueous Formaldehyde Solution and Ethylene Glycol. *Separation and Purification Technology*, (), 116235–. Doi:10.1016/j.seppur.2019.116235.

Passardi F., Penel C., Dunand C. (2004). Performing the paradoxical: How plant peroxidases modify the cell wall. *Trend Plant Sci.*, ()9: 534–540. doi: 10.1016/j.tplants.2004.09.002.

Pawłowska, B., Sysa, M., Godela, A., & Biczak, R. (2024). Antibiotics Amoxicillin, Ampicillin and Their Mixture—Impact on Bacteria, Fungi, Ostracods and Plants. *Molecules*, 29(18), 1-14. DOI: https://doi.org/10.3390/molecules29184301.

Phahlane, C. J., Laurie, S. M., Shoko, T., Manhivi, V. E., & Sivakumar, D. (2021). An Evaluation of Phenolic Compounds, Carotenoids, and Antioxidant Properties inLeaves of South African Cultivars, Peruvian 199062.1 and USA's Beauregard. *Frontiers in Nutrition*, 954. DOI: https://doi.org/10.3389/fnut.2021.773550.

Phung, T. H., & Jung, S. (2014). Perturbed Porphyrin Biosynthesis Contributes to Differential Herbicidal Symptoms in Photodynamically Stressed Rice (*Oryza Sativa*) Treated with 5-Aminolevulinic Acid and Oxyfluorfen. *Pesticide biochemistry and physiology*, *116*, 103–110. https://doi.org/10.1016/j.pestbp.2014.10.002

Picazo-Aragones, J., Terrab, A., & Balao, F. (2020). Plant Volatile Organic Compounds Evolution: Transcriptional Regulation, Epigenetics and Polyploidy. *International Journal of Molecular Sciences*, 21(8956), 1-18. Doi: 10.3390/ijms21238956

Pratiwi, A.H., Wibowo, A., Joko, T., Widiastuti, A., & Subandiyah, S. (2024). Response A Five Shallot Varieties Applied with *Bacillus* spp. Against Twisted Disease. *Journal of Tropical Plant Pests Diseases*. 24 (1), 17-27. Doi: 10.23960/j.hptt.12417-27

Prithiviraj, B., Vikram, A., Kushalappa, A.C., & Yaylayan, V. (2004). Volatile Metabolite Profiling for The Discrimination of Onion Bulbs Infected by Erwinia carotovora ssp. carotovora, *Fusarium oxysporum* and *Botrytis allii*. *European Journal of Plant Pathology*, 110. 371-377.

Pshibytko, N. L., Zenevich, L. A., & Kabashnikova, L. F. (2006). Changes in the Photosynthetic Apparatus during *Fusarium* Wilt of Tomato. *Russian Journal of Plant Physiology*, 53(1): 25-31.

Ptaszek M. (2013). Rational Design of Fluorophores for In Vivo Applications. *Progress in molecular biology and translational science*, *113*, 59–108. DOI: https://doi.org/10.1016/B978-0-12-386932-6.00003-X

Putra, A. M., Anastasya, N. A., Rachmawati, S. W., Yusnawan, E., Syib`li, M. A., Trianti, I., Setiawan, A., & Aini, L. Q. (2024). Growth Performance and Metabolic Changes in Lettuce Inoculated with Plant Growth Promoting Bacteria in A Hydroponic System. *Scientia Horticulturae*, 327 (112868), 1-10. DOI: https://doi.org/10.1016/j.scienta.2024.112868.

Rabinowitch, H.D. & Brewster, J.L. 2018. *Onion and Allied Crops Volume I: Botany, Physiology, and Genetics*. Boca Raton: CRC Press.

Rantau, D.E., Wulandari, D.R., & Maharijaya, A. 2021. *Growth Response of Shallot (Allium ascalonicum L.) Seedlings Cultured on MS Solid and Liquid Medium Supplemented with BAP, Thiamine and Adenine Sulphate*. IOP Conference Series: Earth and Environment. Bogor: IOP Science, 1-11

Ram, V. J., Sethi, A., Nath, M., Pratap, R. (2019). The Chemistry of Heterocycles Nomenclature and Chemistry of Three-to-Five Membered Heterocycles, Chapter 5 - Five-Membered Heterocycles, (), 149-478. DOI: https://doi.org/10.1016/B978-0-08-101033-4.00005-X

Rao, M. V., G. Paliyath and D. P. Ormrod. (1996). Ultraviolet-B- and ozone-induced biochemical changes in antioxidant enzymes of *Arabidopsis thaliana*. *Plant Physiol*. 110:125–136

Rosliani, R. *dkk*., 2022. Benih Biji Bawang Merah (*True Seed of Shallot*). Jakarta: IAARD Press.

Rozema, J, J. van de Staaij, L. O. Bjö rn and M. Caldwell. (1997). UV-B as an environmental factor in plant life: stress and regulation. Trends Ecol. Evol. 12:22–28.

Ruiz-Perez, D., Guan, H., Madhivanan, P., Mathee, K., & Narasimhan, G. (2020). So You Think You can PLS-DA?. *BMC Bioinformatics*, 21(1), 1-10. DOI: https://doi.org/10.1186/s12859-019-3310-7

Saake, P., Brands, M., Endeshaw, A. B., Stolze, S. C., et al. (2025). Ergosterol-Induced Immune Response in Barley Involves Phosphorylation of Phosphatidylinositol Phosphate Metabolic Enzymes and Activation of Diterpene Biosynthesis. *New Phytologist Foundation*, 246(3), 1236-1255. DOI: https://doi.org/10.1111/nph.70022.

Sabnis D. D. (1981). Lumicolchicine as A Tool in the Study of Plant Microtubules: Some Biological Effects of Sequential Products Formed During Phototransformations of Colchicine. *Journal of Experimental Botany*, 32(1), 271–278. DOI: https://doi.org/10.1093/jxb/32.1.271

Sagar, N.A., Pareek, S., Benkeblia, N., & Xiao, J. (2021). Onion (*Allium cepa* L.) Bioactive: Chemistry, Pharmacotherapeutic Functions, and Industrial Applications. *Food Frontier*, 3, 380-412. Doi: 10.1002/fft2.135

Sangale, P. & Patil, R. (2017). Hepatoprotective Activity Of Alkaloid Fractions From Ethanol Extract Of Murraya Koenigii Leaves In Experimental Animals. jPharmaceut Sci Pharmacol. 3(1):28–33)

Scaglioni, P.T., Pagnussatt, F., Lemos A. C., et al. (2019). Nannochloropsis sp. and Spirulina sp. as a Source of Antifungal Compounds to Mitigate Contamination by Fusarium graminearum Species Complex. *Current Microbiology*, 76(23), 930-938. DOI: 10.1007/s00284-019-01663-2.

Shanmugam, K. R., Shanmugam, B., Siva, M., Ravi, S., & Reddy, K. S. (2022). Effect of *Ocimum sanctum* in Sodium Fluoride (NaF) Induced Fluorosis in Rats: A Study with Respect to Antioxidant Enzymes and Fluorosis Markers. *Indian Journal of Pharmaceutical Education and Research*, 56(1), 175-183).

Shevela, D., Kern, J.F., Govindjee, G. et al. Solar energy conversion by photosystem II: principles and structures. Photosynth Res 156, 279–307 (2023). https://doi.org/10.1007/s11120-022-00991-y.

Sidorova, S.F., *Vertitsilleznoe i fuzarioznoe uvyadanie odnoletnikh sel'skokhozyaistvennykh kul'tur* (Crop Wilting under Verticillium and Fusarium Wilts), Moscow: Kolos, 1983

Silva, M., Caro, V., Guzmán, C., Perry, G., Areche, C., & Cornejo, A. (2020). Studies in Natural Products Chemistry Chapter 1 - α-Synuclein and Tau, Two Targets for Dementia. 67(), 1-25. DOI: https://doi.org/10.1016/B978-0-12-819483-6.00001-1)

Singh, B.K., Delgado-Baquerizo, M., Egidi, E., Guirado, E., Leach, J.E., Liu, H., & Trivedi, P. (2023). Climate Change Impacts on Plant Pathogens, Food Security and Paths Forward. *Nature Reviews Microbiology*, 21, 640-656. Doi: https://doi.org/10.1038/s41579-023-00900-7

Singh, R., S. Singh, R. Tripathi and S. B. Agrawal. (2011). Supplemental UV-B radiation induced changes in growth, pigments and antioxidant pool of bean (Dolichos lablab) under field conditions. *J. Environ. Biol*. 32:139-145.

Singh, V., Pandey, B., & Suthar, S. (2018). Phytotoxicity of Amoxicillin to The Duckweed *Spirodela Polyrhiza*: Growth, Oxidative Stress, Biochemical Traits and Antibiotic Degradation. *Chemosphere*, 201(), 492-502. DOI: https://doi.org/10.1016/j.chemosphere.2018.03.010

Singh, Y., Bhatt, J., & Yadav, V.K. (2022). Effect of Different Media, Temperature and pH on Growth and Sporulation of *Fusarium oxysporum* f.sp. *lini* Causing Linseed Wilt. *The Pharma Innovation Journal*, 11(12), 536-539.

Sisler, E. C. (1975). Ethylene Analogs: Effect of Some Unsaturated Sulfides (Thioethers) on Tobacco Leaves. *Tobacco Science*, 6(20), 6-9.

Smith, G. F., Figueiredo E., & Van Wyk A. E. (2019). Kalanchoe (Crassulaceae) in Southern Africa. Chapter 9 Biocultural Significance and Toxicity. Cambridge: Academic Press. Doi:10.1016/B978-0-12-814007-9.00009-8

Steyn, P. S., & van Heerden, F. R. (1998). Bufadienolides of plant and animal origin. *Natural product reports*, *15*(4), 397–413. https://doi.org/10.1039/a815397y

Sugiartini, E., Mayasari, K., & Ikrarwati. (2018). Petunjuk Teknis Budidaya Bawang Merah di Lahan dan di Dalam Pot/*Polybag* Seri Pertanian Perkotaan.

Jakarta: Balai Pengkajian dan Teknologi Pertanian, Badan Penelitian dan Pengembangan Pertanian.

Sui, X., Meng, Z., Dong, T., Fan, X., & Wang, Q. (2023). Enzymatic Browning and Polyphenol Oxidase Control Strategies. *Current Opinion in Biotechnology*, 81 (102921), 1-7. Doi: https://doi.org/10.1016/j.copbio.2023.102921

Susanto, H., Histifarina, D., dan Hamdani, K.K. 2022. Budidaya Bawang Merah Asal Biji Pembelajaran dan Pengalaman dari Lapang. Purwodadi: CV. Sarnu Untung

Takeda, F., Janisiewicz, W., Short, B., Leskey, T., & Stager, A., *et al*. (2021). Ultraviolet-C (UV-C) for Disease and Pest Management and Automating UV-C Delivery Technology for Strawberry. *Acta Horticulturae*. 533-542. 10.17660/ActaHortic.2021.1309.76.

Thippeswamy, M., Rajasreelatha, V., Chalannavar, R. K., & Jogaiah, S. Terpenoid Indole Alkaloids, A Secondary Metabolite in Plant Defense Response in Biocontrol Agents and Secondary Metabolites Applications and Immunization for Plant Growth and Protection. Cambridge: Woodhead Publishing

Thomas, S., Senthilkumar, G. P., Sivaraman, K., Bobby, Z., Paneerselvam, S., & Harichandrakumar, K. T. (2015). Effect of S-Methyl-L-Cysteine on Oxidative Stress, Inflammation and Insulin Resistance in Male Wistar Rats Fed with High Fructose Diet. *Iranian Journal of Medical Sciences*, 40(1), 45–50.

Tian, H., Xu, Y., Liu, S., Jin, D., Zhang, J., Duan, L., & Tan, W. (2017). Synthesis of Gibberellic Acid Derivatives and Their Effects on Plant Growth. *Molecules (Basel, Switzerland)*, 22(5), 694. https://doi.org/10.3390/molecules22050694

Toyobo. (2018). ReverTra AceTM qPCR RT Kit Protocol. https://www.toyobo-global.com/seihin/xr/lifescience/support/manual/FSQ-101.pdf [diakses 16 Juli 2024]

Uparkar, M. S., & Ganatra, S.H. (2020). Qualitative Phytochemical Screening and Identification of Phytoconstituents from *Phyllanthus niruri* Linn. by GC-MS.

Research J. Pharm. and Tech., 13(8),3618-3622. DOI: 10.5958/0974-360X.2020.00640.X).

Utomo, D.H., Ichsan, M., & Putri, J.F. 2019. *Prinsip Dasar Desain primer dengan Bioinformatika*. Malang: Global Science.

Van Eerde, A., Várnai, A., Wang, Y., Paruch, L., Jameson, J.K., Qiao, F., Eiken, H.G., Su, H., Eijsink, V.G.H., and Clarke, J.L. (2022) Successful Production and Ligninolytic Activity of a Bacterial Laccase, Lac51, Made in Nicotiana benthamiana via Transient Expression. *Frontiers in Plant Science*, 13(912293), 1-10. DOI: 10.3389/fpls.2022.912293

Wagey, B. T. (2017). Morphometric Analysis of Congeneric Seagrasses (*Cymodocea rotundata* and *Cymodocea serrulata*) in The Coastal Areas of Bunaken National Park,North Sulawesi, Indonesia. *AACL Bioflux*, 10(6), 1-9.

Wang, C., Zhang, J., Li, J., Chai, Q., & Xie, J. (2023). HS-SPME-GC-MS-based untargeted metabolomics reveals the enhancement of pungent flavor quality in soilless cultivated Chinese chives by preharvest application of methyl jasmonate. *LWT-Food Science and Technology*, 188(), 1-6. DOI: https://doi.org/10.1016/j.lwt.2023.115350.

Wang, M., Xue, J., Ma, J., Feng, X., Ying, H., Xu, H. 2020. *Streptomyces lydicus* M01 Regulates Soil Microbial Community and Alleviates Foliar Disease Caused by *Alternaria alternataon* Cucumbers. *Frontier of Microbiology*, 11, 942.

Wang, P., Wei, J., Hua, X., Dong, G., Dziedzic, K., Wahab, A. T., Efferth, T., Sun, W., & Ma, P. (2024). Plant Anthraquinones: Classification, Distribution, Biosynthesis, and Regulation. *Journal of cellular physiology*, 239(10), e31063. https://doi.org/10.1002/jcp.31063).

Watts, S., Kaur, S., & Kariyat, R. 2022. Revisiting Plant Defense-fitness Trade-off Hypotheses Using Solanum as A Model Genus. *Ecology and Evolution*, 10(1094961): 1-10. Doi: 10.3389/fevo.2022.1094961

Widiastuti, A., Sawitri, W.D., Idris M., S. Handayani, *et al*. (2024). Unraveling the Potential UV-B Induced Gene Expression of the Primary and Secondary

Metabolisms Against Environmental Stress in Shallot. *Agricultural Science*, 12, 111-127. Doi:https://doi.org/10.7831/ras.12.0_111

Windisch, S., Walter, A., Moradtalab, N., Walker, F., Höglinger, B., El-Hasan, A., Ludewig, U., Neumann, G., & Grosch, R. (2021). Role of Benzoic Acid and Lettucenin A in the Defense Response of Lettuce against Soil-Borne Pathogens. *Plants*, 10(11), 1-16. DOI: https://doi.org/10.3390/plants10112336

Wong, A., Moyer, M., Gadoury, D. & Mahaffee, W. 2022. *UV-C Light as a Tool to Manage Grape Powdery Mildew*. BIO Web of Conferences. Paris: Institute Pascal, p.1-4

Wu, S., Fang, C., Li, Z., Wang, Y., Pan, S., Wu, Y., An, X., Long, Y., & Wan, X. (2022). ATP-Binding Cassette G Transporters and Their Multiple Roles Especially for Male Fertility in Arabidopsis, Rice and Maize. International journal of molecular sciences, 23(16), 9304. https://doi.org/10.3390/ijms23169304.

Vaghela B., Vashi R., Rajput K., & Joshi R. (2022). Plant Chitinases and Their Role in Plant Defense: A Comprehensive Review. *Enzyme and Microbial Technology*, 159(110055), 1-11. Doi: https://doi.org/10.1016/j.enzmictec.2022.110055.

Vas, G., & Vekey, K. (2004). Solid-phase Microextraction: A Powerful Sample Preparation Tool Prior to Mass Spectrometric Analysis. *Journal of mass spectrometry*, *39*(3), 233-254.

Xiao F., Mark Goodwin S., Xiao Y., Sun Z., Baker D., Tang X., Jenks M.A., Zhou J.M. (2004). Arabidopsis CYP86A2 Represses Pseudomonas Syringae Type III Genes and is Required for Cuticle Development. *EMBO J.*, 23(), 2903–2913. Doi: 10.1038/sj.emboj.7600290

Yang, J. W., Park, S. U., Lee, H. U., *et al*. (2023). Differential Responses of Antioxidant Enzymes and Lignin Metabolism in Susceptible and Resistant Sweetpotato Cultivars during Root-Knot Nematode Infection. *Antioxidants*, 12(6), 1164. https://doi.org/10.3390/antiox12061164

Yang, Z., Zhi, P., & Chang, C. (2022). Priming seeds for the future: Plant immune memory and application in crop protection. *Frontiers in plant science*, 13, 961840. https://doi.org/10.3389/fpls.2022.961840

Yong, S. H., Song, H. J., Park, D. J., Kim, D. H., Park, K. B. & Choi, M. S. (2021). Chemical Compositions and Antifungal Activity Against Botrytis Cinerea of The Essential Oils from The Leaves of Three Conifer Species, *Forest Science and Technology*, 17(4), 169-179. DOI: 10.1080/21580103.2021.1976683.

Yu, Y., Gui, Y., Li, Z., Jiang, C., Guo, J., & Niu, D. (2022). Induced Systemic Resistance for Improving Plant Immunity by Beneficial Microbes. *Plants*, 11, 386. https://doi.org/10.3390/plants11030386

Zheng, C., Chen, J.-P., Wang, X.-W., & Li, P. (2025). Reactive Oxygen Species in Plants: Metabolism, Signaling, and Oxidative Modifications. Antioxidants, 14(6), 617. https://doi.org/10.3390/antiox14060617

Zlatev, Z & Lidon, F. C. (2012). Plant Physiological Responses to UV-B Radiation. Emirates Journal Food Agriculture, 24(6): 481-501. Doi: 10.9755/ejfa.v24i6.14669.