

Daftar Pustaka

- Anasori, P. & G. Asghari. 2008. Effects of light and differentiation on gingerol and zingiberene production in cultured cells of *Zingiber officinale*. *Planta Med* 75 (09). DOI: 10.1055/s-0029-1234839
- Ansori, T. 2011. Pengaruh bahan organik pada sifat biologi tanah. <http://www.lestarimandiri.org/id/pupukorganik/156bahan-organik.html>. Diakses 23 Mei 2019
- Ansori, T. 2005. Bahan Organik Tanah. Yogyakarta: Universitas Gadjah Mada. <http://elisa1.ugm.ac.id/>. Diakses 23 Mei 2019
- Aristyanti, D. 2014. Pengaruh kadar kimia tanah terhadap kandungan flavonoid daun tabat barito (*Ficus deltoidea* Jack.). [Skripsi]. Institut Pertanian Bogor. Indonesia
- Backer, C.A. & Den Brink van B.J.R. 1963. *Flora of Java*. Published under The auspices of the rijks herbarium. Leyden. p: 167
- Balai Besar Penelitian Tanaman Padi. 2009. *Hama Walang Sangit dan Cara Pengendaliannya*. Diakses 23 Februari 2019. <http://bbpadi.litbang.pertanian.go.id/index.php/tahukah-anda/208-hama-walang-sangit-dan-cara-pengendaliannya>
- Bendoy, C., M.A. Torres, C. Demayo. 2011. Describing head shape variation between sexes and among two colormorphs of the rice bug, *Leptocorisa oratorius* Fabricius, 1794 (Hemiptera:Alydidae) *J. Nature Studies*. 10 (2): 44-52
- Benjamin, J.G. & D.C. Nielsen. 2004. A Method to Separate Plant Roots from Soil and Analyze Root Surface Area. *Plant Soil*. 267: 225-234.
- Beran, F., T.G. Kollner, J. Gershenzon, D. Tholl. 2019. Chemical convergence between plants and insects: biosynthetic origins and functions of common secondary metabolites. *New Phytol*. 223: 52–67. doi: 10.1111/nph.15718
- Brand, M.H. 1997. Shade influences plant growth, leaf color, and chlorophyll content of *Kalmia latifolia* L. cultivars. *HortScience* 32: 206-208
- Chalker-Scott L. & L.H. Fenchigami. 1989. *The role of phenolic compounds in plant stress responses*. In: Paul HL, Ed. Low temperature stress physiology in crops. Boca Raton, Florida: CRC Press Inc. p.40.

- Chaves, M.M., J.P. Marco, A. Perrier. 2003. Understanding plant responses to drought from genes to the whole plant. *Funct. Plant Biol.* 30: 239-64.
- Coats, R., L.L. Karr, C.D. Drewes. 1991. Toxicity and neurotoxic effects of monoterpenoids in insects and earthworms. In: Hedin, P. (Ed.), Natural Occurring Pest Bioregulators. American Chemical Society Symposium Series 449, pp. 305e316.
- Curtis, W.R., P. Wang, A. Humphrey. 1995. Role of calcium and differentiation in enhanced sesquiterpene elicitation from calcium alginate-immobilized plant tissue. *Enzyme Microb. Technol.* 17: 554-557
- Dayan, F.E., ChL Cantrell, S.O. Duke. 2009. Natural products in crop protection. *Bioorgan Med Chem.* 17: 4022-4034.
- Defago, M., G. Valladares, E. Banchio, C. Carpinella & S. Palacios. 2006. Insecticide and antifeedant activity of different plant parts of *Melia azedarach* on *Xanthogalera luteola*. *Fitoterapia* 77: 500-505
- Dev, S. 1989. *Terpenoids*. In: Rowe, J.W. (Ed.), Natural Products of Woody Plants. Springer-Verlag, Berlin, pp. 691e807.
- Dicosmo, F. & M. Misawa. 1985. Eliciting secondary metabolism in plant cell cultures. *Trends Biotechnol.* 3: 318-322.
- Dixon, R.A. & N. Paiva. 1995. Stressed induced phenyl propanoid metabolism. *Plant Cell* 7: 1085-97; PMID:12242399; DOI: 10.1105/tpc.7.7.1085
- Dobermann, A. & T. Fairhurst. 2000. Nutrient Disorders and Nutrient Management. Tham Sin Chee. 191p.
- Farooq, M., A. Wahid, N. Kobayashi, D. Fujita, S.M.A Basra. 2009. Plant drought stress: effect, mechanism, and management. *Agron. Sustain. Dev.* 29: 185-212
- Felipe, C.F.B., K.S. Fonsêca, A.L.R. Barbosa, J.N.S. Bezerra, M.A. Neto, M.M. França Fonteles, G.S. Barros Viana. 2008. Alterations in behavior and memory induced by the essential oil of *Zingiber officinale* Roscoe (ginger) in mice are cholinergic-dependent. *J. Med Plants Res.* 2 (7): 163e170
- Ferreira, M.I., A.B. Ferreira, L. Haber. 2012. Effect of light intensity on chemical composition and essential oil content in *Piper aduncum* L. leaves and roots. *Planta Med.* 78 (11). DOI: 10.1055/s-0032-1320355

- Freeman, B.C. & G.A. Beattie. 2008. An overview of plant defenses against pathogens and herbivores. *The Plant Health Instr.* 149. DOI: 10.1094/PHI-I-2008-0226-01
- Gill, S.S. & N. Tuteja. 2010. Reactive oxygen species and antioxidant machinery in abiotic stress tolerance in crop plants. *Plant Physiol Biochem.* 48 (12): 909-30
- Goldsworthy, P.R. & N.M. Fisher. 1992. *Fisiologi Tanaman Budidaya Tropik*. Tohari, Penerjemah. Yogyakarta (ID) : Gadjah Mada University Press. Terjemahan dari : *The Physiology of Tropical Field Crops*.
- Hanafiah, K.A. 2007. *Dasar-Dasar Ilmu Tanah*. Jakarta: PT Raja Grafindo Persada
- Hassan, S.A., S. Mijin, U.K. Yusoff, P. Ding, P.E. Wahab. 2012. Nitrate, ascorbic acid, mineral and antioxidant activities of *Cosmos caudatus* in response to organic and mineral-based fertilizer rates. *Molecules* 17 (7): 78437853.
- Hasegawa, H. 1971. Distribution and taxonomy of rice bug in the Southeast Asia. *Proc. Of Symp. in Trop. Agric. Res. July. Trop. Agric. Resch. Series*. Tokyo: 229234.
- Hayanti, E.D.N., Yuliani, H. Fitrihidayati. 2014. Penggunaan kompos kotoran kelelawar (guano) untuk meningkatkan pertumbuhan tanaman kacang tanah (*Arachis hypogaea*). *LenteraBio*. 3 (1): 7–11
- Hsaio, T.C. & L.K. Xu. 2000. Sensitivity of growth of roots versus leaves to water stress: biophysical analysis and relation to water transport. *J. Exp. Bot.* 51: 1596–1616.
- Ibrahim, M.H., H. Jaafar, E. Karimi, A. Ghasemzadeh. 2013. Impact of organic and inorganic fertilizers application on the phytochemical and antioxidant activity of Kacip Fatimah (*Labisia pumila* Benth). *Molecules* 18: 10973-10988.
- Isman, M.B. & C.M. Machial. 2006. *Pesticides based on plant essential oils: from traditional practice to commercialization*. In: Rai, Carpinella, editors. *Naturally Occuring Bioactive Compounds*. Elsevier; p. 29-44.
- Jekli. 2019. Efektivitas ekstrak kloroform dan metanol daun *Piper betle* L., *Piper aduncum* L., *Piper nigrum* L., *Piper retrofractum* Vahl, dan *Piper crocatum* Ruiz & Pav. sebagai agen repelan walang sangit

(*Leptocorisa oratorius* Febricius, 1794). [Skripsi]. Universitas Gadjah Mada. Indonesia

- Khaleel, C., N. Tabanca, G. Buchbauer. 2018. α -Terpineol, a natural monoterpene: A review of its biological properties. *Open Chem.* 16: 349–361
- Khosroshahi, M., A. Ershadi, A. Imani. 2014. Morphological changes in response to drought stress in cultivated and wild almond species. *Int J Horti Sci Technol.* 1 (1): 79-92
- Kondo, M., P.P. Pablico, D.V. Aragonés, R. Agbisit, J. Abe, S. Morita. 2003. Genotypic and environmental variations in root morphology in rice genotypes under upland fields conditions. *Plant soil* 255: 189-200
- Kumar, I. & R.K. Sharma. 2018. Production of Secondary Metabolites in Plants under Abiotic Stress: An Overview. *Significances Bioeng Biosci.* 2 (4). SBB.000545.2018. DOI: 10.31031/SBB.2018.02.000545
- Kumar, S., S.K. Dwivedi, S.S. Singh, B.P. Bhatt, P. Mehta, R. Elanchezian, V.P. Singh, O.N. Singh. 2014. Morpho-physiological traits associated with reproductive stagedrought tolerance of rice (*Oryza sativa* L.) genotypes under rain-fed condition of eastern Indo-Gangetic Plain. *Ind J Plant Physiol.* 19(2): 87–93
- Kumar, R, S. Sharma, V. Pathania. 2013. Effect of shading and plant density on growth, yield and oil composition of clary sage (*Salvia sclarea* L.) in north western Himalaya. *J Essential Oil Res* 25: 23-32. doi: 10.1080/10412905.2012.742467
- Kumar, R.P., M.N. Manoj, A. Kush, R.S. Annadurai. 2007. In silico approach of azadirachtin binding with actins. *Insect Biochem. Mol Biol.* 37: 635e640
- Lailaty, I.Q. 2016. Aktivitas alelopati ekstrak dan serasah tumbuhan invasif terhadap pertumbuhan biji tumbuhan pengganggu dan tanaman budidaya. *Prosiding Konggres Teknologi Nasional 2016 Inovasi Teknologi Untuk Kejayaan Bangsa dan Negara.* Jakarta. 1: 327-337
- Laise, R.A., As.A Mestawaty, L. Tangge. 2017. Respon pertumbuhan tanaman cabai (*Capsicum frutescens* L.) terhadap cekaman air untuk pemanfaatannya sebagai media pembelajaran. *e-JIP BIOL* 5 (1): 109-118

- Lapanjang, I., B.S. Purwoko, Hariyadi, S.W. Budi R. & M. Melati. 2008. Evaluasi beberapa ekotipe jarak pagar (*Jatropha curcas* L.) untuk toleransi cekaman kekeringan. *Bul. Agron.* 36 (3): 263 – 269
- Lawlor, D.W. & G. Cornic. 2002. Photosynthetic carbon assimilation and associated metabolism in relation to water deficits in higher plants. *Plant Cell Environ.* 25: 275-284.
- Lei, Y., C. Yin, C. Li. 2006. Differences in some morphological, physiological, and biochemical responses to drought stress in two contrasting populations of *Populus przewalskii*. *Physiol. Plant.* 127: 182–191
- Leiwakabessy, F.M. 1998. *Kesuburan Tanah*. Pertanian IPB. Bogor. Pp. 18-19.
- LPT (Lembaga Penelitian Tanah). 1979. *Penuntun Analisa Fisika Tanah*. Lembaga Penelitian Tanah. Bogor.
- Litsinger, J. A., A. T. Barrion , B. L. Canapi , E. M. Libetario , P. C. Pantua , C. G. dela Cruz , R.F. Apostol , M. D. Lumaban , J.P. Bandong , R.F. Macatula. 2015. Leptocorisa rice seed bugs (Hemiptera: Alydidae) In Asia: A Review. *Philipp Entomol* 29 (1): 1-103
- Litsinger. J.A., 2009. *When Is a Rice Insect a Pest: Yield Loss and the Green Revolution*. pp 391 – 498 in *Integrated Pest Management: Innovation-Development Process Volume I*. (Rajinder Peshin and Ashok K. Dhawan, Eds.). Springer Science Business Media B.V.
- Liu, Y., X. Li, M. Liu, B. Cao, H. Tan, J. Wang, X. Li. 2012. Responses of three different ecotypes of reed (*Phragmites communis* trin.) to their natural habitats: Leaf surface micro-morphology, anatomy, chloroplast ultrastructure and physio-chemical characteristics. *Plant Physiol. Biochem.* 51: 159–167.
- Manoi, F. 2007. Sirih merah sebagai tanaman multi fungsi. *Warta Puslitbangbun.* 13 (2).
- Mapegau. 2006. Pengaruh cekaman air terhadap pertumbuhan dan hasil tanaman kedelai (*Glycine max* L. merr). *J. Ilmiah Pertanian kultura.* 41 (1): 43-51
- Mapes, Ch. & Y. Xu. 2014. Photosynthesis, vegetative habit and culinary properties of sage (*Salvia officinalis*) in response to low-light conditions. *Canad J Plant Sci* 94: 881-889. doi:10.4141/cjps-2014-010

- Mazid, M., T.A. Khan, F. Mohammad. 2011. Effect of abiotic stress on synthesis of secondary plant products: A Critical Review. *Agri. Reviews* 32 (3): 172-182
- Mengel, K. & E.A. Kirkby. 2010. *Principles of Plant Nutrition*. Inter. Potash. Inst. 864 p.
- Mukhtaruddin, Sufardi & A. Anhar. 2015. Penggunaan guano dan pupuk NPK Mutiara untuk memperbaiki kualitas media subsoil dan pertumbuhan bibit kelapa sawit (*Elaeis guineensis* Jacq.). *J. Floratek* 10 (2): 19-33
- Munne-Bosch, S. 2005. The role of a-tocopherol in plant stress tolerance. *J. Plant Physiol.* 162: 743-748
- Murshed, R., F. Lopez-Lauri, H. Sallanon. 2013. Effect of water stress on antioxidant systems and oxidative parameters in fruits of tomato (*Solanum lycopersicon* L, cv. Micro-tom). *Physiol Mol Biol Plants*. 19 (3): 363–378.
- Muttaleb, Q.A., T.L. Abdullah, S.A. Hassan, A.A. Rashid, S. Taheri, O.A. Ahmed, D.A. Abdulameer. 2018. The role of shade and nitrogen on physiological traits and secondary metabolites of *Piper betle* L. *J Hortic.* 5 (2): 1-8
- Nakao, M., K. Ono, S. Takio. 1999. The effect of calcium on flavanol production in cell suspension cultures of *Polygonum hydropiper*. *Plant Cell Rep.* 18: 759–763.
- Navari-Izzo, F., M.F. Quartacci, R. Izzo. 1990. Water-stress induced changes in protein and free amino acids in field grown maize and sunflower. *Plant Physiol Biochem.* 28: 531-537.
- Nurhadiah & N.P. Ningrum. 2018. Pengaruh pemberian pupuk NPK Mutiara terhadap pertumbuhan dan hasil tanaman sorgum (*Sorghum bicolor* L). *Piper.* 27 (14): 334-342
- Novizan. 2007. *Petunjuk Pemupukan yang Efektif*. Agromedia Pustaka. Jakarta.
- Osakabe, Y., K. Osakabe, K. Shinozaki, LS.P. Tran. 2014. Response of plants to water stress. *Front. Plant Sci.* 5:86. doi: 10.3389/fpls.2014.00086
- Pan, J. & B. Guo. 2016. Effects of light intensity on the growth, photosynthetic characteristics, and flavonoid content of *Epimedium pseudowushanense* B.L.Guo. *Molecules.* 21 (1475): 1-12

- Parfati, N. & T. Windono. 2016. Sirih merah (*Piper crocatum* Ruiz & Pav.) kajian pustaka aspek botani, kandungan kimia, dan aktivitas farmakologi. *Media Pharmaceutica Indonesiana* 1 (2): 106-115
- Pino, Yaíma Sánchez, Miriam M. Rojas. 2013. Plant secondary metabolites as an alternative in pest management. I: Background, research approaches and trends. *Rev. Protección Veg.* 28 (2): 81-94
- Pitoy, M.S., Rugayah & R. Evizal. 2006. Pengaruh perbedaan sumber bahan organik sebagai media tanam pada pertumbuhan. [Skripsi]. Universitas Lampung. Indonesia
- Rachmawati, A.N. & A. Kurniawati. 2016. Pertumbuhan beberapa jenis sirih (*Piper* spp.) pada berbagai intensitas naungan. *Bul. Agrohorti* 4 (3): 288-297
- Ramakrishna, A. & G.A. Ravishankar. 2011. Influence of abiotic stress signals on secondary metabolites in plants. *Plant Signal. Behav.* 6:11, 1720-1731, DOI: 10.4161/psb.6.11.17613
- Rasantika, M.S. 2009. *Guano Kotoran Burung yang menyuburkan*. Kompas Gramedia. 9 Juli 2009. Jakarta.
- Rattan, R.S. 2010. Mechanism of action of insecticidal secondary metabolites of plant origin. *J. Crop Prot.* 29: 913-920
- Reid, W.V., S.A. Laird, C.A. Meyer, R. Gamez, A. Sittenfeld, D.A. Janzen, M.A. Gollin, C. Juma. 1993. *Biodiversity Prospecting: Using Genetic Resources for Sustainable Development*. World Resources Institute. USA
- Rezai, S., N. Etemadi, A. Nikbakht, M. Yousefi & M.M. Majidi. 2018. effect of light intensity on leaf morphology, photosynthetic capacity, and chlorophyll content in Sage (*Salvia officinalis* L.). *Hortic. Sci. Technol.* 36 (1): 46-57
- Roitsch, T., 1999. Source-sink regulation by sugar and stress. *Curr. Opin. Plant Biol.* 2: 198–206.
- Rosmarkam, A., & Yuwono, N. W. 2002. *Ilmu Kesuburan Tanah*. Yogyakarta: Kanisius
- Salim, M., Yahya, H. Sitorus, T. Ni'mah, Marini. 2016. Hubungan kandungan hara tanah dengan produksi senyawa metabolit sekunder pada tanaman duku (*Lansium domesticum* Corr var Duku) dan potensinya sebagai larvasida. *J. Vektor Penyakit* 10 (10): 11-18

- Sarief, E.S. 1985. *Kesuburan dan Pemupukan Tanah Pertanian*. Bandung: Pustaka Buana.
- Saifudin, A. 2014. *Senyawa alam metabolit sekunder: Teori, konsep, dan teknik pemurnian*. Deepublish, Sleman, Yogyakarta. 113p.
- Seigler, D.S. 1998. *Plant Secondary Metabolism*. Boston MA: Chapman and Hall (Kluwer Academic Publishers): 711.
- Setyorini, S.D. & E. Yusnawan. 2016. Peningkatan kandungan metabolit sekunder tanaman aneka kacang sebagai respon cekaman biotik. *Iptek Tanaman Pangan* 11 (2): 167-174
- Solichatun, E. Anggarwulan, W. Mudyantini. 2005. Pengaruh ketersediaan air terhadap pertumbuhan dan kandungan bahan aktif saponin tanaman ginseng Jawa (*Talinum paniculatum* Gaertn.). *Biofarmasi*. 3 (2): 47-51
- Srivastava, A.S. & H.P. Saxena. 1964. *Rice Bug Leptocorisa varicornis Fabricus and Allied Species*. In M.D. Pathak (Ed.) *The Major of Insect Pest of Rice Plant*. The John Hopkins Press. Baltimore: 525-550
- Stevenson, F.J. 2009. *Humus Chemistry*. John Wiley and Sons. New York.
- Subin, E.R. 2019. Uji toksisitas ekstrak kloroform dan metanol daun *Piper betle* L. dan *Piper crocatum* Ruiz & Pav. terhadap walang sangit. [Tesis]. Universitas Gadjah Mada. Indonesia
- Sudewo, B. 2007. *Basmi Penyakit dengan Sirih Merah*. PT Agromedia Pustaka. Jakarta
- Sufardi. 2012. *Pengantar Nutrisi Tanaman*. Syiah Kuala University Press., Banda Aceh.
- Suharti, T. 2000. Status Resistensi *Crociodolomia binotalis* Zell. (Lepidoptera: Pyralidae) terhadap Insektisida Profenofos (Curacron 500 EC) dari Tiga Daerah di Jawa Barat [Skripsi]. Institut Pertanian Bogor. Indonesia
- Sumarwoto, Susilowati, Y. Adhityanti. 2008. Uji sirih merah (*Piper Crocatum* Ruiz And Pav.) pada berbagai intensitas sinar matahari dan media tanam. *J. Pertanian Mapeta*. 11 (1) : 1-8
- Sun, T. 2010. *Gibberellin Signal Transduction in Stem Elongation & Leaf Growth*. In: Davies P.J. (eds) *Plant Hormones*. Springer, Dordrecht

- Suryawati, S. & E. Murniyanto. 2011. Hubungan sifat tanah Madura dengan kandungan minyak atsiri dan tingkat kelarutannya pada jahe (*Zingiber officinale* L.). *Agrovigor*. 4 (2): 99-104
- Sutedjo, M. 1996. *Pupuk dan Cara Pemupukan*. Jakarta: PT Rineka Cipta.
- Suwarno & K. Idris. 2007. Potensi dan kemungkinan penggunaan guano secara langsung sebagai pupuk di Indonesia. *J. Tanah dan Lingkungan*. 9 (1): 37 – 43.
- Taiz, L. & E. Zeiger. 2002. *Plant physiology*. 3rd ed. Sinauer Associates, Sunderland, Tyne and Wear, England: 690p.
- Wahyuningsih, S. 2019. Karakterisasi fraksi aktif ekstrak kloroform dan metanol daun *Piper spp.* sebagai repelan walang sangit. [*Tesis*]. Universitas Gadjah Mada. Indonesia
- Walker, R.L., L.G. Burs, J. Moorby. 2000. Respon Of Plant Growth Rate To Nitrogen Supply: A Comparison Of Relative Addition And N Interruption Treatments. *J. Exp. Bot.* 52 (355): 309-317.
- Walter, M., E. Marchesan, P.F.S Massoni, L.P. Sartori, G.M.S da Silva, R.B. Ferreira. 2013. Antioxidant properties of rice grains with light brown, red and black pericarp colors and the effect of processing. *Food Res. Int.* 50: 698-703
- Wu, Y. & D.J. Cosgrove. 2000. Adaptation of roots to low water potential by changes in cell wall extensibility and cell wall proteins. *J. Exp. Bot.* 51: 1543-1553.
- Wyn-Jones, R. G. & J. Gorhan. 1983. *Osmoregulation*, In: Lange, H., et al., (Eds.), *Physiological Plant Ecology. III. Responses to chemical and Biological Environment*. (Encyclopedia of Plant Physiology, New Series, Vol 12C) Springer-Verlag, Berlin- Heidelberg-New York, pp. 35.
- Yamada, M., H. Morishita, K. Urano, N. Shiozaki, K. Yamaguchi-Shinozaki, K. Shinozaki, Y. Yoshida. 2005. Effects of free proline accumulation in petunias under drought stress. *J. Exp. Bot.* 56 (417): 1975–1981
- Yeo, Y.L., Y.Y. Chia, C.H. Lee, H.S. Sow, W.S. Yap. 2014. Effectiveness of Maceration Periods with Different Extraction Solvents on in-vitro Antimicrobial Activity from Fruit of *Momordica charantia* L. *J. Appl. Pharm. Sci.* 4 (10): 016-023

- Yudiyanto, A. Rizali, A. Munif, D. Setiadi, I. Qayim. 2014. Environmental factors affecting productivity of two Indonesian varieties of black pepper (*Piper nigrum* L.). *Agrivita* 36 (3): 278-284
- Yudistira, T., A. Harahap, L.R. Batubara. 2018. Pengaruh pemberian pupuk organik guano fosfat dan pupuk NPK Jago Tani terhadap pertumbuhan bibit tanaman lada perdu (*Piper nigrum* L.). *Bernas Agricultural Research Journal*. 14 (1): 119-125
- Zhang, X., E.H. Ervin, G.K. Evanylo, K.C. Haering. 2009. Impact of biosolids on hormone metabolism in drought-stressed tall fescue. *Crop Sci.* 49: 1893–1901.
- Zervoudakis, G., G. Salahas, G. Kaspiris, E. Konstantopoulou. 2012. Influence of light intensity on growth and physiological characteristics of common sage (*Salvia officinalis* L.). *Braz Arch Biol Technol* 55: 89-95. doi:10.1590/S1516-89132012000100011