

## DAFTAR PUSTAKA

- Abbott, L.K., Robson, A.D., and De, B.G.1984. The effect of phosphorus on the formation of hyphae in soil by the vesicular-arbuscular mycorrhizal fungus, *Glomus fasciculatum*. *New Phytologist*. 97: 437–446.
- Adesemoye, A.O., Torbert, H.A., and Kloepper, J.W. 2008. Enhanced plant nutrient use efficiency with PGPR and AMF in an integrated nutrient management system. *Canadian Journal Microbiology*. 54: 876–886.
- Alam, M., Khaliq, A., Sattar, A., Shukla, S.R., Anwar, M., and Dharni, S. 2011. Synergistic effect of arbuscular mycorrhizal fungi and *Bacillus subtilis* on the biomass and essential oil yield of rose-scented geranium (*Pelargonium graveolens*). *Archives of Agronomy and Soil Science*. 57(8):889–898.
- Allen, M.F., Swenson, W., Querejeta, J.I., Egerton-Warburton, L.M., and Treseder, K.K. 2003, Ecology of mycorrhizae: a conceptual framework for complex interactions among plants and fungi. *Annual Review of Phytopathology*. 41: 271–303.
- Anas, dan Santosa, D.A. 1993. *Mikoriza vesikular arbuskular*. Fakultas Pertanian IPB. Bogor.
- Astuti, Y., Sundari, D., dan Winarno, W.M. 1996. Tanaman kencur (*Kaempferia galanga* L): Informasi tentang fitokimia dan farmakologi. *Warta Tumbuhan Obat Indonesia*. 3(2).26-27.
- Auge, R.M., Toler, H.D., Sams, C.E., and Nasim, G. 2008. Hydraulic conductance and water potential gradients in squash leaves showing mycorrhiza-induced increases in stomatal conductance. *Mycorrhiza*.18:115–121.
- Bagyaraj, D.J., and Varma, A.1995. Interactions between arbuscular mycorrhizal fungi and plants: their importance in sustainable agriculture in arid and semiarid tropics, *Advance in Microbiology Ecology*.14:119-142.
- Balai Pengkajian Teknologi Pertanian. 2012. *Budidaya Tanaman Obat Keluarga (Toga)*. Kementerian Pertanian.
- Bharti, N., Baghel, S., Barnawal, D., Yadavb, A., and Kalra, A. 2013. The greater effectiveness of *Glomus mosseae* and *Glomus intraradices* in improving productivity, oil content and tolerance of salt-stressed menthol mint (*Mentha arvensis*). *Journal Science Food Agricultural*. 93: 2154-2161.
- Bhosali, K.S., and Shinde, B.P. 2011. Influence of arbuscular mycorrhizal fungi on proline and chlorophyll content in *Zingiber officinale* Rosc grown under water stress. *Indian Journal of Fundamental and Applied Life Sciences*.1(3):172-176.

- Bhuiyan, I.N.M., Begum, B., and Anwar, N.M. 2008. Essential oils of leaves and rhizomes of *Kaempferia galanga* linn. *Journal of Biological Sciences*. 3(1):65-76.
- Boureima, S., Diouf, M., Diop, A.T., Diatta, M., Leye, M.E., Ndiaye, F., and Seck, D. 2008. Effects of arbuscular mycorrhizal inoculation on the growth and the development of sesame (*Sesamum indicum* L.). *African Journal of Agricultural Research*. 3(3):234-238
- Bruce, A., Smith, S.E., and Tester, M. 1994. The development of mycorrhizal infection in cucumber: effects of P supply on root growth, formation of entry points and growth of infection units. *New Phytologist*. 127: 507-514.
- Brundrett, M.C. 2008. Mycorrhizal associations: The web resource. [www.mycorrhizas.info/vam.html#gves](http://www.mycorrhizas.info/vam.html#gves). Diakses pada tanggal 5 juli 2018.
- Brundrett, M.C., Bougher, N., Dell, B., Grove, T., and Malajczuk, N. 1996. *Working with Mycorrhizal in Forestry and Agriculture*. Pirie Printers. Canberra.
- Bucher, M. (2007). Functional biology of plant phosphate uptake at root and mycorrhiza interfaces. *New Phytologist*. 173(1):11-26.
- Campos, S.A.M, and Silva, B.S.F., Yano-Melo, M.A., Melo, F.M., and Maia, C.L. 2017. Application of arbuscular mycorrhizal fungi during acclimatization of *Alpinia Purpurata* to induce tolerance to *Maloidogone arenaria*. *The Plant Pathology Journal*. 33(3):330-336.
- Ciccolini, V., Bonari, E., and Pellegrino, E. 2015. Land-use intensity and soil properties shape the composition of fungal communities in Mediterranean peaty soils drained for agricultural purposes. *Biology and Fertility Soils*. 51:719-731.
- Copetta, A., Lingua, G., and Berta, G. 2006. Effects of three AM fungi on growth, distribution of glandular hairs, and essential oil production in *Ocimum basilicum* Var. Genovese. *Mycorrhiza*. 16:443-446.
- Daisog, H., Sbrana, C., Cristani, C., Moonen, A.C., Giovannetti, M., and Barberi, P. 2012. Arbuscular mycorrhizal fungi shift competitive relationships among crop and weed species. *Plant Soil*. 353: 395-408.
- Demir, S. 2004. Influence of arbuscular mycorrhiza on some physiological growth parameters of pepper. *Turkish Journal of Biology*. 28:85-90.
- Dhifi, W., Bellili, S., Jazi, S., Bahloul, N., and Mniff, W. 2016. Essential oils' chemical characterization and investigation of some biological activities: A Critical Review. *Medicines*. 3(4):3-16.

- Dickson, S., Smith, E.S., and Smith, A.F.1991.Characterization of two arbuscular mycorrhizal fungi in symbiosis with *Allium porrum*: inflow and flux of phosphate across the symbiotic interface. *New Phytologist*.144(1):173-181.
- Dwijosapoetro, D. 1985. *Pengantar Fisiologi Tanaman*. PT. Gramedia Pustaka Utama, Jakarta.
- Gang, D.R., Wang, J., Dudareva, N., Hee, N.K, Simon, J.E., Lewinsohn, E., and Pichersky, E. 2001. An investigation of the storage and biosynthesis of phenylpropenes in sweet basil. *Plant Physiology*.125: 539–555.
- Gardner, F.P., Pear, B.R., and Mitcheel, L.F. 1991. *Fisiologi Tanaman Budidaya*. Terjemahan Universitas Indonesia Press. Jakarta. 428 hal.
- George, E., Haaussler, K.U., Vetterlien, D., Gorgus, E., and Marschner, H. 1992. Water and nutrient translocation of *Glomus mosseae*. *Canadian Journal of Botany*. 70:2130–2137.
- Gerdemann, I.W., and Nicholson, T.H. 1963. Spores of mycorrhizal Endogone species extracted from soil by wet sieving and decanting. *Mycological Society*. 46: 235-244.
- Gianinazzi, S., Gollotte, A., Binet, M.N., Van, T.D., Redecker, D., and Wipf, D. 2010. Agroecology: the key role of arbuscular mycorrhizas in ecosystem services. *Mycorrhiza*. 20: 519–530.
- Giovannetti, M., Avio, L., Barale, L., and Ceccarelli, L. 2012 Nutraceutical value and safety of tomato fruits produced by mycorrhizal plants. *British Journal of Nutrition*. 107, 242–251 (2012).
- Goussous, S.J., and Mohammad, M.J. 2009. Comparative effect of two arbuscular mycorrhizae and N and P fertilizers on growth and nutrient uptake of onions. *International Journal Of Agriculture and Biology*. 11( 4):463-467.
- Govindarajulu, M., Pfeffer, P.E., Jin, H., Abubaker, J., Douds, D.D., Allen, J.W., Bücking, H., Lammers, P.J., and Shachar-Hill, Y. 2005. Nitrogen transfer in the arbuscular mycorrhizal symbiosis. *Nature* .435:819–823.
- Graham, J.H., Leonard, R.T., and Menge, J.A.1981. Membrane-mediated decrease in root exudation responsible for inhibition of vesicular-arbuscular mycorrhiza formation. *PlantPhysiology*. 68:548-552.
- Guenther, E. (2006). *Minyak Atsiri Jilid I*. Penerjemah Ketaren. Semarang: Penerbit UI Press.
- Gupta, M.L., Prasad, A., Ram, P., and Kumar. 2002. Effect of inoculation vesicular-arbuscular Micorryzhal (VAM) on the essential oil related characters and nutrient acquisition in the crops different cultivars of menthol mint (*Mentha arvensis*) under field condition. *Biresource Technology*. 81:77-99.

- Guttenberger, M. (2000). Arbuscules of vesicular arbuscular fungi inhabit an acidic compartment within plant roots. *Planta*. 211:299-304.
- Hause, B., and Fester, T. (2005). Molecular and cell biology of arbuscular mycorrhizal symbiosis. *Planta*. 221:184-196.
- Hesham, A.H., Abdurahman, H.N., and yunus, M.R. 2016. Techniques for extraction of essential oils from plants: a review. *Australian Journal of Basic and Applied Sciences*. 10(16): 117-127.
- Ijdo, M., Cranenbrouck, S., and Declerck, S. 2011. Methods for large-scale production of AM fungi: past, present, and future. *Mycorrhiza*. 21:1–16.
- Irianto, R.S.B. 2009. Pengaruh inokulasi fungi mikoriza arbuskula terhadap pertumbuhan bibit jarak pagar di persemaian. *Jurnal Penelitian Hutan dan Konservasi Alam*. 6(2): 195-201.
- Irwan, A.W., and Wicaksono, F.Y. 2017. Comparison of soybean's leaf area measurement using gravimetry, regression, and scanning. *Jurnal kultivasi*. 16(3):425-429.
- Jacksson, M.L. 1973. *Soil Chemical Analysis*. Prentice Hall of India Ltd., New Delhi.
- Jha, A., Kumar, A., Saxena, K.R., Kamalvanshi, M., and Chakravarty, N. 2012. Effect of arbuscular mycorrhizal inoculations on seedling growth and biomass productivity of two bamboo species. *Indian Journal of Microbiology*. 52(2):281–285.
- Kapoor, R., Giri, B., and Mukerji, G.K. 2004. Improved growth and essential oil yield and quality in *Foeniculum vulgare* mill on mycorrhizal inoculation supplemented with P-fertilizer. *Bioresource Technology*. 93:307–311.
- Kapoor, R., Giri, B., and Mukerji, G.K. 2002. *Glomus macrocarpum* : a potential bioinoculant to improve essential quality and concentration in Dill (*Anethum graveolens* L.) and Carum (*Trachyspermum ammi* (Linn.) Sprague. *World Journal Microbiology and Biotechnology*. 18:459-463.
- Kasiamdari, S.R., Smith, S.A., Smith, F.A., and Scott, E.S. 2012. Influence of the mycorrhizal fungus, *Glomus coronatum*, and soil phosphorus on infection and disease caused by binucleate *Rhizoctonia* and *Rhizoctonia solani* onmung bean (*Vigna radiata*). *Plant and Soil* 238: 235–244.
- Kumar, B.M., Kumar, S.S., and Fisher, R.F. 2005. Galangal growth productivity related to light transmission to single strata, multi strata and no over canopy systems. *Journal Of New Seeds*. 7(2):111-126.
- Lakitan, B. 2000. *Plant Growth Physiology and Development*. King Grafindo Persada. Jakarta.

- Linderman, R.G. 1992. Vesicular-arbuscular mycorrhizae and soil microbial interactions. In Bethlenfalvay, G. J. and Linderman, R. G. (eds.) *Mycorrhizae in Sustainable Agriculture*. American Society of Agronomy, Madison. pp. 45–70.
- Loomis, W.D., and Corteau, R. 1972. Essential oil biosynthesis. *Recent Advance Phytochemistry*. 6: 147–185.
- Madigan, M.T., Martinko, J.M., and Parker, J. 2003. *Brock Biology of Microorganisms* 13<sup>th</sup> ed. Pearson Education, Inc: United States of America.
- Maldonado-Mendoza, E.I., Gary, R. Dewbre., and Maria, J., and Harrison. 2001. A phosphate transporter gene from the extra-radical mycelium of an arbuscular mycorrhizal fungus *Glomus intraradices* is regulated in response to phosphate in the environment. *Molecular Plant-Microbe Interactions*. 14(10): 1140–1148.
- Mikkelsen, B.L., Rosendahl, S., and Jakoben, I. 2008. Underground resource allocation between individual networks of mycorrhizal fungi. *New Phytologist*. 180:890–898.
- Mohan, V., and Sandeep, C. 2015. Biochemical analysis and growth enhancement studies of important medicinal plant, *Rauwolfia serpentina* inoculated with Arbuscular Mycorrhizal fungi in nursery *International Journal of Current Microbiology and Applied Sciences*. 4(6):811-820.
- Moora, M., and Zobel, M. 1996. Effect of arbuscular mycorrhiza on inter- and intraspecific competition of two grassland species. *Oecologia*. 108: 79–84.
- Mosse, B. 1981. *Vesicular Arbuscular Mycorrhiza Research For Tropical Agriculture*. Hawaii Institute of tropical Agriculture and Human Resources. University of Hawaii.
- Mosse, B. 1981. *Vesicular-arbuscular mycorrhizal research for tropical agriculture*. Res. Bull. 82 hlm.
- Nakmee, S.P., Sombun, T., and Ngamprasit, S. 2016. Comparative potentials of native arbuscular mycorrhizal fungi to improve nutrient uptake and biomass of *Sorghum bicolor* Linn. *Agriculture and Natural Resources*. 50:173-178.
- O’Keefe, D.M., and Sylvia, D.M. 1993. Chronology and mechanism of P uptake by mycorrhizal sweet potato plants. *New Phytologist*. 126:651– 659.
- Oehl, F., Sieverding, E., Palenzuela, J., Ineichen, K., and Silva, G.A. 2011. Advances in Glomeromycota taxonomy and classification. *International Mycological Association*. 2(2):191-199.
- Omar, N.M., Hasali, M.H.N., Alfarrar, Y.H., Yarmo, A.M., and Zuberdi, M.A. 2014. antimicrobial activity and microbial transformation of ethyl-*p*-methoxycinnamate extracted from *kaempferia galanga*. *Oriental Journal of Chemistry*. 30(3)-1037-1043.

- Pal, A., and Pandey, S. 2017. Role of Arbuscular Mycorrhizal Fungi on Plant Growth and Reclamation of Barren Soil with Wheat (*Triticum aestivum* L.) crop *International Journal of Soil Science*. 12:25-32.
- Phillips, J.M. and Hayman, D.S. 1970. Improved procedures for clearing roots and staining parasitic and vesicular arbuscular mycorrhizal fungi for rapid assessment of infection. *Transactions of the British Mycological Society*, 55, 158-161.
- Preetha, S.T., Hemanthakumar, A.S., and Krishnan, N.P. 2016. A comprehensive review of *Kaempferia galanga* L. (Zingiberaceae): A high sought medicinal plant in Tropical Asia. *Journal of Medicinal Plants Studies*. 4(3): 270-276.
- Ragothama. 2000. Phosphate transport and signaling. *Current Opinion In Plant Biology*. 3:182-187.
- Raina, P.A., and Abraham, Z. 2015. Chemical profiling of essential oil of *Kaempferia galanga* L. germplasm from India. *Journal of Essential Oil Research*. 28(1):29-34.
- Rasouli-Sadaghiani, M., Hassani, A., Barin, M., Danesha, R.Y., and Sefidkon. F. 2010. Effects of arbuscular mycorrhizal (AM) fungi on growth, essential oil production and nutrients uptake in basil. *Journal of Medicinal Plants Research*. 4(21): 2222-2228.
- Ravindran, P.N., and Balachandran, I. 2005. Underutilized medicinal spices (II). Galanga (*Kaempferia galanga* L.). *Spice India*. 18(1):22-35.
- Ruiz-Lozano, J.M., Collados, C., Barea, J.M., and Azcon, R. 2001. Arbuscular mycorrhizal symbiosis can alleviate drought induced nodule senescence in soybean plants. *New Phytologist*. 151:493-502 .
- Rukmana, R. 1994. Kencur. Kanikus : Yogyakarta.
- Sadhana, B., and Muthulakshmi, S. 2017. Influence of arbuscular mycorrhizal fungal effect and salinity on *Curcumalonga*. *Springer Nature*. 417-435.
- Samanhudi., Yunus, A., Pujiasmanto, B., and Rahayu, M. 2014. Application of organic manure and mycorrhizal for improving plant growth and yield of temulawak (*Curcuma xanthorrhiza* Roxb.). *Scientific Research Journal (SCIRJ)*. 2(5): 11-16.
- Sangwan, N.S., Farooqi, A.H.A., Shabih, F., and Sangwan, R.S. 2001. Regulation of essential oil production in plants. *Plant Growth Regulation*. 34:3-21.
- Santos, D.R., Girardi, G.C., Pescador, S., and Sturmer, L.S. 2010. Effects of arbuscular mycorrhizal fungi and phosphorus fertilization on post vitro growth of micropropogated *Zingiber officinale* Roscoe. *Revista Brasileira de Ciencia do Do Solo*. 34:766-711.

- Selvaraj, T., Nisha, C.M., and Rajeshkumar, S. 2009. Effect of indigenous arbuscular mycorrhizal fungi on some growth parameters and phytochemical constituents of *Pogostemon patchouli* Pellet. *Maejo International Journal of Science and Technology*. 3(01), 222-234.
- Silva, M.F., Pescador, R., Rebelo, R.A., and Stürmer, S.L. 2008. The effect of arbuscular mycorrhizal fungal isolates on the development and oleoresin production of micropropagated *Zingiber officinale*. *Brazilian Journal of Plant Physiology*, 20:119-130.
- Smith S.E., and Read, J.D. 1997. *Mycorrhizal Symbiosis*. Academic Press, UK.
- Smith, F.A., and Smith, S.E. 1981. Mycorrhizal infection and growth of *Triplium subterraneum*: comparison of natural and artificial inocula. *New Phytologist*. 311-325.
- Smith, S.E., and Read, D.J. 2008. *Mycorrhizal Symbiosis*, 3rd ed. Academic Press: New York, USA.
- Smith, S.E., and Read, D.J. 1997. *Mycorrhizal Symbiosis*, 2nd edn. London: Academic.
- Smith, S.E., and Read, D.J. 2008. *Mycorrhizal Symbiosis*. Academic Press, Cambridge, UK.
- Souza, T. 2015. *Handbook of arbuscular mycorrhizal fungi*. Springer International Publishing Switzerland.
- Sudibyo, R.S. 2000. The contents of volatile oil isolated from *Kaempferia galanga* L. rhizomes mass spectroscopic approach. *Majalah Farmasi Indonesia*.11:142-149.
- Sudova, R., and Vosatka, M. 2008. Effect of inoculation with native arbuscular mycorrhizal fungus on clonal growth of *Potentilla reptans* and *Fragaria moschata* (Rosaceae). *Plant and Soil*. 308: 55–67.
- Taber, R.A., and Trappe, J.M. 1982. Vesicular-arbuscular mycorrhizae in rhizomes, scale-like leaves, roots, and xylem of ginger. *Mycologia*, 74:156-161.
- Tewtrakul, S., Yuenyongsawad, S., Kummee, S., Latthya, and Atsawajaruwan, L. 2005. Chemical components and biological activities of volatile oil of *Kaempferia galanga* Linn. Songklanakarin. *Journal Science Technology*. 27:503-507.
- Umar, I.M., Asmawi, Z.M., Sadikun, A., Atangwho, J.I., Yam, F.M., Altaf, R., and Ahmed A. 2001. Bioactivity-guided isolation of Ethyl-p-methoxycinnamate, an anti-inflammatory constituent from *Kaempferia galangal* L. extracts. *Molecules*.17: 8720–8734.

- Wang, B., and Qui, Y.L., 2006. Phylogenetic distribution and evolution of mycorrhizas in land plants. *Mycorrhiza*.16(5):299-363.
- Webster, J., and Weber, R.W.S. 2007. *Introduction to Fungi Third Edition*. Cambridge University Press. New York.
- Wong, K.C., Qing, K.S., and Lim, C.L. 1992. Composition of the essential oil of rhizome of *Kaempferia galanga* L. *Flavour and Fragrance Journal*. 7:263-266.
- Yamawaki, K., Matsumura, A., Hattori, R., Tarui, A., Hossain, A.M., Ohashi, Y., and Daimon, H. 2013. Effect of inoculation with arbuscular mycorrhizal fungi on growth, nutrient uptake and curcumin production of turmeric (*Curcuma longa* L.). *Agricultural Sciences*. 4(2): 66-71.
- Yao, Q., Li, X., Feng, G., and Christie, P. 2001. Mobilization of sparingly soluble inorganic phosphates by the external mycelium of an arbuscular mycorrhizal fungus. *Plant and Soil*. 230, 279-285.
- Zamski, and Schaffer. 1996. *Photoassimilate Distribution in Plants and Crops, Source-Sink Relationships*. Departement of Agricultural Botany The Hebrew University of Jerusalem Rehovot. Israel.
- Ziane, H., Meddad-Hamza, A., Beddiar, A., and Gianninazi, S. 2017. Effects Of Arbuscular Mycorrhizal Fungi And Fertilization Levels On Industrial Tomato Growth And Production. *International Journal Of Agriculture dan Biology*. 19(2): 341-347.
- Zuccarini, P., and Okurowska, P. 2008. Effects of mycorrhizal colonization and fertilization on growth and photosynthesis of sweet basil under salt stress. *Journal of Plant Nutrition*. 31: 497 – 513.