

DAFTAR PUSTAKA

- Ahmad, R., C. J. Lim, and S. Y. Kwon. 2013. Glycine betaine: a versatile compound with great potential for gene pyramiding to improve crop plant performance against environmental stresses. *Plant Biotechnol. Reports* 7: 49–57.
- Abbas, R., S. Rasul, K. Aslam, M. Baber, M. Shahid, F. Mubeen, and T. Naqqash. 2019. Halotolerant PGPR: A hope for cultivation of saline soils. *Journal of King Saud University – Science* 31: 1195–1201.
- Bano, A., and M. Fatima. 2009. Salt tolerance in *Zea mays* (L.) following inoculation with *Rhizobium* and *Pseudomonas*. *Biol. Fertility Soils* 45: 405–413.
- Barassi, C. A., G. Ayrault, C. M. Creus, R. J. Sueldo, and M. T. Sobero. 2006. Seed inoculation with *Azospirillum mitigates* NaCl effects on lettuce. *Sci. Horticulturae* 109: 8–14.
- Bockheim, J. G., and A. E. Hartemink. 2017. *The Soil of Wisconsin*. Springer International Publishing.
- Chen, M., H. Wei, J. Cao, R. Liu, Y. Wang, and C. Zheng. 2007. Expression of *Bacillus subtilis* proAB genes and reduction of feedback inhibition of proline synthesis increases proline production and confers osmotolerance in transgenic *Arabidopsis*. *J. Biochem. Mol. Biol.* 40: 396–403.
- Cho, S.M., B. R. Kang, S. H. Han, A. J. Anderson, J. Y. Park, Y. H. Lee, B. H. Cho, K. Y. Yang, C. M. Ryu, and Y. C. Kim. 2008. 2R, 3R-butanediol, a bacterial volatile produced by *Pseudomonas chlororaphis* O6, is involved in induction of systemic tolerance to drought in *Arabidopsis thaliana*. *Mol. Plant Microbe. Interact.* 8: 1067–1075.
- Coico, R and G. Lunn. 2005. Biosafety: Guidelines for Working with Pathogenic and Infectious Microorganisms. *Current Protocols in Microbiology* 1A.1.1-1A.1.8.
- Conn, H.J. and R.S. Breed. 1919. *The use of the nitrate-reduction test in characterizing bacteria*. New York Agricultural Experiment Station, Geneva, New York
- Darmawijaya, I. 1990. *Klasifikasi Tanah, Dasar-dasar Teori Bagi Penelitian Tanah dan Pelaksanaan Penelitian*. UGM Press, Yogyakarta.
- Dimkpa, C., T. Weinand, and F. Ash, 2009. Plant-rhizobacteria interactions alleviate abiotic stress conditions. *Plant Cell Environ.* 32: 1682–1694.
- Egamberdieva, D., and Z. Kucharova. 2009. Selection for root colonizing bacteria stimulating wheat growth in saline soils. *Biol. Fertility Soil* 45: 563–571.
- Egamberdiyeva, D. 2007. The effect of plant growth promoting bacteria on growth and nutrient uptake of maize in two different soils. *Appl. Soil Ecol.* 36: 184–189.



- Ernst, M., D. B. Silva, R. R. Silva, R. Z. Vêncio, and N. P. Lopes. 2014. Mass spectrometry in plant metabolomics strategies: from analytical platforms to data acquisition and processing. *Natural product reports*. 6: 784-806.
- Guo, Q., L. Liu, and B. J. Barkla. 2019. Membrane lipid remodeling in response to salinity. *International Journal of Molecular Sciences* 20: 3-31.
- Guerzoni, M. E., R. Lanciotti and P. S. Cocconcelli. 2001. Alteration in cellular fatty acid composition as a response to salt, acid, oxidative and thermal stresses in *Lactobacillus helveticus*. *Microbiology* 147: 2255-2264.
- Grover, M., S. Z. Ali, V. Sandhya, A. Rasul, and B. Venkateswarlu. 2011. Role of microorganisms in adaptation of agriculture crops to abiotic stresses. *World J. Microbiol. Biotechnol.* 27: 1231-1240.
- Hachicho, N., A. Birnbaum and H. J. Heipieper. 2017. Osmotic stress in colony and planktonic cells of *Pseudomonas putida* mt-2 revealed significant differences in adaptive response mechanisms *AMB Expr.* 7:62-69.
- Halo, B.A., A. L. Khan, M. Waqas, A. Al-Harrasi, J. Hussain, L. Ali. M. Adnan, and I. J. Lee. 2015. Endophytic bacteria (*Sphingomonas* sp. LK11) and gibberellin can improve *Solanum lycopersicum* growth and oxidative stress under salinity. *J. Plant Interact.* 10: 117-125.
- Harjowigeno, S. dan Widiatmaka. 2011. *Evaluasi Kesesuaian Lahan Dan Perencanaan Tata Guna Lahan*. Gadjah Mada University Press, Yogyakarta.
- Hayat, R., S. Ali, U. Amara, R. Khalid, and I. Ahmed. 2010. Soil beneficial bacteria and their role in plant growth promotion: a review. *Ann. Microbiol.* 60: 579-598.
- Haynes, R. J. and R. S. Swift. 1990. Stability of soil aggregates in relation to organic constituents and soil water content. *J. Soil Sci.* 41 : 73-83.
- Holopainen, J. K. and J. Gershenzon. 2010. Multiple stress factors and the emission of plant VOCs. *Trends in Plant Science* 15 : 1360-1385.
- Ilangumaran, G. and D. L. Smith. 2017. Plant growth promoting rhizobacteria in amelioration of salinity stress: a systems biology perspective. *Frontiers in plant science* 8: 1-9.
- Jamil, A., S. Riaz, M. Ashraf, and M. R. Foolad, 2011. Gene expression profiling of plants under salt stress. *Crit. Rev. Plant Sci.* 5: 435-458.
- Kloepper, J. W. 1994. Plant growth-promoting rhizobacteria (other systems). In: Okon, Y. (Ed.), *Azospirillum/Plant Associations*. CRC Press, Boca Raton, FL, USA, 111-118.
- Kohler, J., F. Caravaca, L. Carrasco, and A. Roldan. 2006. Contribution of *Pseudomonas mendocina* and *Glomus intraradices* to aggregates stabilization and promotion of biological properties in rhizosphere soil of lettuce plants under field conditions. *Soil Use Manage.* 22: 298-304.

- Kohler, J., J. A. Hernandez, F. Caravaca, and A. Roldan. 2009. Induction of antioxidant enzymes is involved in the greater effectiveness of a PGPR versus AM fungi with respect to increasing the tolerance of lettuce to severe salt stress. *Environ. Exp. Bot.* 65: 245–252.
- Krasensky, J., and C. Jonak. 2012. Drought, salt, and temperature stress-induced metabolic rearrangements and regulatory networks. *J. Exp. Bot.* 63: 1593–1608.
- Lisec, J., N. Schauer, J. Kopka, L. Willmitzer, and A. R. Fernie. 2006. Gas chromatography mass spectrometry–based metabolite profiling in plants. *Nature protocols*, 1: 387.
- Liu, X., D. Ma, Z. Zhang, S. Wang, S. Du, and L. Yin. 2019. Plant lipid remodeling in response to abiotic stress. *Environmental and Experimental Botany* 165 : 174-184.
- Miller, G., N. Suzuki, S. Ciftci-Yilmaz, and R. Mittler. 2010. Reactive oxygen species homeostasis and signalling during drought and salinity stresses. *Plant, Cell Environ.* 33: 453–467.
- Munir, M. 1996. *Tanah-Tanah Utama Indonesia*. Dunia Pustaka Jaya, Jakarta.
- Naz, I., A. Bano, and T. Ul-Hassan. 2009. Isolation of phytohormones producing plant growth promoting rhizobacteria from weeds growing in Khewra salt range, Pakistan and their implication in providing salt tolerance to *Glycine max* L. *Afr. J. Biotechnol.* 8: 5762–5766.
- Rossi, F., and R. De-Philippis. 2015. Role of cyanobacterial exopolysaccharides in phototrophic biofilms and in complex microbial mats. *Life* 5: 1218–1238.
- Sandhya, V., S. Z. Ali, M. Grover, G. Reddy, and B. Venkateswarlu. 2009. Alleviation of drought stress effects in sunflower seedlings by exopolysaccharides producing *Pseudomonas putida* strain P45. *Biol. Fertility Soil* 46 : 17–26.
- Tan, K. H. 1996. *Soil Sampling, Preparation, and Analysis*. Marcel Dekker, Inc, New York.
- Tewari, S., and N. K. Arora. 2014. Multifunctional exopolysaccharides from *Pseudomonas aeruginosa* PF23 involved in plant growth stimulation, biocontrol and stress amelioration in sunflower under saline conditions. *Curr. Microbiol.* 69: 484–494.
- Timmusk, S., I. A. A. El-Daim, L. Copolovici, T. Tanilas, A. Kännaste, L. Behers, E. Nevo, G. Seisenbaeva, E. Stenström, and U. Niinemets. 2014. Drought-tolerance of wheat improved by rhizosphere bacteria from harsh environments: enhanced biomass production and reduced emissions of stress volatiles. *PLoS ONE* 9: 60-86.
- Utami, S. N. H. dan S. Handayani. 2003. Sifat kimia entisol pada sistem pertanian organik. *Ilmu Pertanian* 10: 63-69.
- van Loosdrecht, M.C., J. Lyklema, W. Norde, G. Schraa, and A. J. Zehnder .1987. The role of bacterial cell wall hydrophobicity in adhesion. *Appl Environ Microbiol* 53:1893–1897.
- Vessey, J. K. 2003. Plant growth promoting rhizobacteria as biofertilizers. *Plant and Soil* 255: 571–586.
- Welbaum, G. E., A. V. Sturz, Z. Dong, and J. Nowak. 2004. Managing soil microorganisms to improve productivity of agro-ecosystems. *Critical Reviews in Plant Sciences* 23: 175-193.

- Yamaguchi, T. and E. Blumwald. 2005. Developing salt-tolerant crop plants: challenges and opportunities. *Trends Plant Sci.* 12: 615– 620.
- Yao, L., Z. Wu, Y. Zheng, I. Kaleem., and C. Li. 2010. Growth promotion and protection against salt stress by *Pseudomonas putida* Rs-198 on cotton. *Eur. J. Soil Biol.* 46: 49–54.
- Yildirim, E., and A. G. Taylor. 2005. Effect of biological treatments on growth of bean plants under salt stress. *Ann. Rep. Bean Improvement Cooperative* 48: 176–177.
- Yuwono, T., D. Handayani, and J. Soedarsono. 2005. The role of osmotolerant rhizobacteria in rice growth under different drought conditions. *Australian journal of agricultural research* 7: 715-721.
- Yuwono, T., M. Shovitri, E. Mursyanti, and Soedarsono. 1996. Development of probes for detection of betaine genes in rhizobacteria using PCR-amplified betaine-encoding DNA sequences. *IJ. Biotech.* 2: 75-81.
- Zahir, Z. A., A. Munir, H. N. Asghar, M. Arshad, and B. Shaharoon. 2008. Effectiveness of rhizobacteria containing ACC-deaminase for growth promotion of peas (*Pisum sativum*) under drought conditions. *J. Microbiol. Biotechnol.* 5: 958–963.
- Zhang, H., M. S. Kim, Y. Sun, S. E. Dowd, H. Shi, and P. W. Paré. 2008. Soil bacteria confer plant salt tolerance by tissue-specific regulation of the sodium transporter HKT1. *Mol. Plant Microbe Interact.* 6: 737–744.