

## DAFTAR PUSTAKA

- Aa, L., Bramhankar, S. B., Pillai, T. S., Isokar, S. S., Dinkwar, G. T., Bhure, S. S., & Kharat, V. M. (2019). Biochemical and physiological characterizations of *Pseudomonas fluorescens*. *International Journal of Chemical Studies*, 7(1), 1785–1788.
- Abed, H., Rouag, N., Mouatassem, D., & Rouabhi, A. (2016). Screening for *Pseudomonas* and *Bacillus* antagonistic rhizobacteria strains for the biocontrol of Fusarium wilt of chickpea. *Eurasian Journal of Soil Science*, 5(3), 182–191.
- Abidin, Z., Luqman, Q. A., & Abdul, L. A. (2015). Pengaruh bakteri *Bacillus* sp. dan *Pseudomonas* sp. terhadap pertumbuhan jamur patogen *Sclerotium rolfsii* Sacc. penyebab penyakit rebah semai pada tanaman kedelai. *Jurnal HPT*, 3(1), 1–10.
- Abreu, C. S. De, Figueiredo, J. E. F., Oliveira, C. A., Santos, V. L., & Gomes, E. A. (2016). Maize endophytic bacteria as mineral phosphate solubilizers. *Genetics and Molecular Research*, 16(1), 1–13. <https://doi.org/10.4238/gmr16019294>.
- Afzal, I., Shinwari, Z. K., Sikandar, S., & Shahzad, S. (2019). Plant beneficial endophytic bacteria : Mechanisms, diversity, host range and genetic determinants. *Microbiological Research*, 221: 36–49. <https://doi.org/10.1016/j.micres.2019.02.001>.
- Ahanger, R., Bhatand, H. A., & Dar, N. A. (2014). Biocontrol agents and their mechanism in plant disease management. *Sciencia Acta Xaveriana An International Science Journal*, 5(1), 47–58.
- Ahemad, M., & Kibret, M. (2014). Mechanisms and applications of plant growth promoting rhizobacteria : Current perspective. *Journal of King Saud University - Science*, 26, 1–20. <https://doi.org/10.1016/j.jksus.2013.05.001>.
- Ahmadvazdeh, M., & Tehrani, A. S. (2009). Evaluation of fluorescent pseudomonads for plant growth promotion, antifungal activity against *Rhizoctonia solani* on common bean, and biocontrol potential. *Biological Control : Theory and Applications in Pest Management*, 48(2), 101–107.
- Ahmed, E., & Holmström, S. J. M. (2014). Siderophores in environmental research: roles and applications. *Microbial Biotechnology*, 7(3), 196–208. <https://doi.org/10.1111/1751-7915.12117>.
- Ahuya, S. C., & Payak, M. M. (1983). A rating scale for banded leaf and sheath blight of maize. *Indian Phytopathology* 36, 338–340.
- Ajayi-Oyetunde, O. O., & Bradley, C. A. (2018). *Rhizoctonia solani*: taxonomy, population biology and management of rhizoctonia seedling disease of soybean. *Plant Pathology*, 67(1), 3–17. <https://doi.org/10.1111/ppa.12733>.
- Akhtar, J., Kumar Jha, V., & Chandra Lal, H. (2011). Post-infectional phenolic changes in maize due to *Rhizoctonia solani* f. sp. *sasakii* causing banded leaf and sheath blight. *Indian Phytopathology*, 64(3), 261–264.

- Aktar, W., Sengupta, D., & Chowdhury, A. (2009). Impact of pesticides use in agriculture: Their benefits and hazards. *Interdisciplinary Toxicology*, 2(1), 1– 12. <https://doi.org/10.2478/v10102-009-0001-7>.
- Al-Fadhal, F. A., AL-Abdy, A. N., & Alkhafije, D. A. (2019). Isolation and molecular identification of *Rhizoctonia solani* and *Fusarium solani* isolated from cucumber (*Cucumis sativus L.*) and their control feasibility by *Pseudomonas fluorescens* and *Bacillus subtilis*. *Egyptian Journal of Biological Pest Control*, 29(1). <https://doi.org/10.1186/s41938-019-0145-5>.
- Ambarsari, A. D. P. (2019). *Efektivitas Penekanan Penyakit Hawar pelepas Padi oleh Bakteri Endofit Isolat Artemisia*. Retrieved from <https://core.ac.uk/download/pdf/211769572.pdf>.
- Ananta, P. S., Deventhiran, M., Saravanan, P., Anand, D., & Rajarajan, S. (2016). A comparative GC-MS analysis of bacterial secondary metabolites of *Pseudomonas* species. *The Pharma Innovation Journal*, 5(4), 84–89.
- Anderson, L. M., Stockwell, V. O., & Loper, J. E. (2004). An extracellular protease of *Pseudomonas fluorescens* inactivates antibiotics of *Pantoea agglomerans*. *Phytopathology*, 94(11), 1228–1234. <https://doi.org/10.1094/PHYTO.2004.94.11.1228>.
- Ariyanti, A. E. L., Suriani, & Wahab, S. S. (2021). Potensi Mikroba Antagonis *Bacillus cereus* dan *Trichoderma* sp . terhadap patogen penting tanaman jagung. *Tarjih Agriculture System Journal*, 01(1), 23–29.
- Arora, N. K., Kim, M. J., Kang, S. C., & Maheshwari, D. K. (2007). Role of chitinase and  $\beta$ -1,3-glucanase activities produced by a fluorescent Pseudomonad and in vitro inhibition of *Phytophthora capsici* and *Rhizoctonia solani*. *Canadian Journal of Microbiology*, 53(2), 207–212. <https://doi.org/10.1139/w06-119>.
- Arslan, S., Loğoglu, E., & Öktemer, A. (2006). Antimicrobial activity studies on some piperidine and pyrrolidine substituted halogenobenzene derivatives. *Journal of Enzyme Inhibition and Medicinal Chemistry*, 21(2), 211–214. <https://doi.org/10.1080/14756360600563063>.
- Arvan, R., & Aqil, M. (2020). *Deskripsi Varietas Unggul Jagung, Sorgum dan Gandum*. Balai Penelitian Tanaman Serealia Badan Penelitian dan Pengembangan Pertanian Kementerian Pertanian.
- Arwiyanto, T., Maryudani, Y. M. S., Nurul, N., & Azizah. (2007). Sifat-sifat fenotipik *Pseudomonas fluorescens*, agensia pengendalian hayati penyakit lincat pada tembakau temanggung. *Biodiversitas*, 8(2), 147 – 151.
- Asmoro, P. P., & Munif, A. (2020). Bakteri endofit dari tumbuhan paku-pakuan sebagai agens hayati *Rhizoctonia solani* dan pemacu pertumbuhan tanaman padi. *Jurnal Fitopatologi Indonesia*, 15(6), 239–247. <https://doi.org/10.14692/jfi.15.6.239-247>.

- Audrain, B., Farag, M. A., Ryu, C. M., & Ghigo, J. M. (2015). Role of bacterial volatile compounds in bacterial biology. *FEMS Microbiology Reviews*, 39(2), 222–233. <https://doi.org/10.1093/femsre/fuu013>.
- Bacon, C. W., & Hinton, D. M. (2002). Endophytic and biological control potential of *Bacillus mojavensis* and related species. *Biological Control*, 23, 274–284. <https://doi.org/10.1006/bcon.2001.1016>.
- Badan Penelitian dan Pengembangan Pertanian. (2013). *Deskripsi Varietas Unggul Jagung Edisi 2013*. Pusat penelitian dan Pengembangan Tanaman Pangan, Badan Penelitian dan Pengembangan Pertanian, Kementerian Pertanian.
- Beck, H. C., Hansen, A. M., & Lauritsen, F. R. (2003). Novel pyrazine metabolites found in polymyxin biosynthesis by *Paenibacillus polymyxa*. *FEMS Microbiology Letters*. [https://doi.org/10.1016/S0378-1097\(03\)00054-5](https://doi.org/10.1016/S0378-1097(03)00054-5).
- Beye, M., Fahsi, N., Raoult, D., & Fournier, P. (2018). Careful use of 16S rRNA gene sequence similarity values for the identification of *Mycobacterium* species. *New Microbes and New Infections*, 22, 24–29. [https://doi.org/10.1016/j\\_nmni.2017.12.009](https://doi.org/10.1016/j_nmni.2017.12.009).
- Bharose, A. A., Gajera, H. P., Hirpara, D. G., Golakiya, B. A., & Kachhadia, V. H. (2017). Molecular identification and characterization of *Bacillus* antagonist to inhibit aflatoxigenic *Aspergillus flavus*. *International Journal of Current Microbiology and Applied Sciences*, 6(3), 2466–2484. <https://doi.org/10.20546/ijcmas.2017.603.280>.
- Botelho, G. R., & Mendonça-Hagler, L. C. (2006). Fluorescent Pseudomonads associated with the rhizosphere of crops - An overview. *Brazilian Journal of Microbiology*, 37(4), 401–416. <https://doi.org/10.1590/S1517-83822006000400001>.
- Bottini, R., Cassán, F., & Piccoli, P. (2004). Gibberellin production by bacteria and its involvement in plant growth promotion and yield increase. *Applied Microbiology and Biotechnology*, 65(5), 497–503. <https://doi.org/10.1007/s00253-004-1696-1>.
- Brahmbhatt, D. (2014). Molecular identification of bacteria using 16S rDNA sequencing. A Dissertation Submitted to the In Partial Fulfilment of the Requirements for the Degree of Master of Science in Microbiology by: (April 2012). <https://doi.org/10.13140/2.1.4412.6406>.
- Buana, R. F., Wicaksono, W. A., & Situmorang, E. C. (2011). *In vitro* test of rhizosphere chitinolytic bacteria as a biocontrol for *Ganoderma boninense*. In *Proceedings of The 7th ACSA Conference 2011* (pp. 372–376).
- Budi, I. S. (2013). Biocontrol for rhizoctonia stem rot disease by using combination of specific endophyte in paddy tidal swamp. *Agrivita*, 35(3), 304–310.
- Burbank, L., Mohammadi, M., & Roper, M. C. (2015). Siderophore-mediated iron acquisition influences motility and is required for full virulence of the xylem-dwelling bacterial phytopathogen *Pantoea stewartii* subsp *stewartii*. *Applied and Environmental Microbiology*, 81(1): 139–148. <https://doi.org/10.1128/AEM.02503-14>

- Campanini, E. B., Davolos, C. C., Alves, E. C. C., & Lemos, M. V. F. (2012). Isolation of *Bacillus thuringiensis* strains that contain Dipteran-specific cry genes from Ilha Bela (Sao Paulo, Brazil) soil samples. *Braz. J. Biol.*, 72(2), 243–247.
- Caulier, S., Gillis, A., Colau, G., Licciardi, F., Liépin, M., Desoignies, N., Modrie, P., Legreve, A., Mahlion, J. & Bragard, C. (2018). Versatile antagonistic activities of soil-borne *Bacillus* spp. and *Pseudomonas* spp. against *Phytophthora infestans* and other potato pathogens. *Frontiers in Microbiology*, 9(FEB), 1–15. <https://doi.org/10.3389/fmicb.2018.00143>
- Cavaglieri, L., Orlando, J., Rodríguez, M. I., Chulze, S., & Etcheverry, M. (2005). Biocontrol of *Bacillus subtilis* against *Fusarium verticillioides* in vitro and at the maize root level. *Research in Microbiology*, 156(5–6), 748–754. <https://doi.org/10.1016/j.resmic.2005.03.001>
- Cavaglieri, L., Orlando, J., & Etcheverry, M. (2009). Rhizosphere microbial community structure at different maize plant growth stages and root locations. *Microbiological Research*, 164(4), 391–399. <https://doi.org/10.1016/j.micres.2007.03.006>
- Cawoy, H., Bettoli, W., Fickers, P., & Ongena, M. (2011). *Bacillus*-Based Biological Control of Plant Diseases. In M. Stoytcheva (Ed.), *Pesticides in the Modern World-Pesticides Use and Management* (pp. 273–302). <https://doi.org/10.5772/52807>
- Chaudhary, S., Sagar, S., Tomar, A., Sengar, R. S., & Kumar, M. (2016). Banded leaf and sheath blight: A menacing disease of maize (*Zea mays* L.) and its management. *Journal of Applied and Natural Science*, 8(3), 1720–1730. <https://doi.org/10.31018/jans.v8i3.1030>
- Chen, Y., Yan, F., Chai, Y., Liu, H., Kolter, R., Losick, R., & Guo, J. H. (2013). Biocontrol of tomato wilt disease by *Bacillus subtilis* isolates from natural environments depends on conserved genes mediating biofilm formation. *Environmental Microbiology*, 15(3), 848–864. <https://doi.org/10.1111/j.1462-2920.2012.02860.x>
- Cherif-Silini, H., Silini, A., Yahiaoui, B., Ouzari, I., & Boudabous, A. (2016). Phylogenetic and plant-growth-promoting characteristics of *Bacillus* isolated from the wheat rhizosphere. *Annals of Microbiology*, 66(3), 1087–1097. <https://doi.org/10.1007/s13213-016-1194-6>
- Compart, Duffy, S. B., EA., B., Clement, C., & Nowak, J. (2005). Use of plant growth-promotng bacteria for biocontrol of plant diseases: principles, mechanisme of acion, and future prospects. *Applied and Enviromental Microbiology*, 71(9), 4951–4959.
- Cordero, P., Cavigliasso, A., Príncipe, A., Godino, A., Jofré, E., Mori, G., & Fischer, S. (2012). Genetic diversity and antifungal activity of native *Pseudomonas* isolated from maize plants grown in a central region of Argentina. *Systematic and Applied Microbiology*, 35(5), 342–351.

- Cortes-Barco, A. M., Goodwin, P. H., & Hsiang, T. (2010). Comparison of induced resistance activated by benzothiadiazole 2R 3R -butanediol. *Plant Pathology*, 59, 643–653. <https://doi.org/10.1111/j.1365-3059.2010.02283.x>
- Da Silva, M. P., Tylka, G. L., & Munkvold, G. P. (2017). Seed treatment effects on maize seedlings coinfecte with *Rhizoctonia solani* and *Pratylenchus penetrans*. *Plant Disease*, 101(6), 957–963. <https://doi.org/10.1094/PDIS-10-16-1417-RE>
- Del Angel, E. C., Castillo, F. D. H., Fuentes, Y. M. O., Morales, G. G., Reyes, F. C., & Cauich, F. M. T. (2017). Endophytic bacteria controlling *Fusarium oxysporum* and *Rhizoctonia solani* in *Solanum tuberosum*. *European Journal of Physical and Agricultural Sciences*, 5(1), 29–39.
- Departemen Pertanian. (2008). *Pedoman Diagnosis OPTK Golongan Bakteri*. Departemen Pertanian, Jakarta.
- Dewi, N. (2015). *Uji Antagonis Bakteri Rizosfer Pisang Terhadap Cendawan Patogen Rhizoctonia solani. Skripsi*. Fakultas Sains dan Teknologi, Universitas Islam Negeri Alauddin, Makasar
- Dhayanithi, V., Syed, S. S., Kumaran, K., Sankar, K. R. J., Ragavan, R. V., Goud, P. S. K., Kumari, N.S., & Pati, H. N. (2011). Synthesis of selected 5-thio- substituted tetrazole derivatives and evaluation of their antibacterial and antifungal activities. *Journal of the Serbian Chemical Society*, 76(2), 165–175. <https://doi.org/10.2298/JSC090421001D>
- Direktorat Perlindungan Perkebunan. (2014). *Pedoman Uji Mutu Dan Uji Efikasi Lapangan Agens Pengendali Hayati (APH)*. Kementerian Pertanian, Jakarta.
- Djaenuddin, N., Nonci, N., & Muis, A. (2017). Efektivitas Formula *Bacillus subtilis* TM4 untuk Pengendalian Penyakit pada Tanaman Jagung. *Jurnal Fitopatologi Indonesia*, 13(4), 113–118. <https://doi.org/10.14692/jfi.13.4.113>
- Djaenuddin, N., Nonci, N., & Muis, A. (2017). The effectiveness of biopesticide formulation *Bacillus subtilis* BNt8 as biocontrol agent of banded leaf and sheath blight (*Rhizoctonia solani*) disease on corn (*Zea mays* L.). *AAB Bioflux*, 9(1), 1–11. Retrieved from <http://www.aab.bioflux.com.ro>
- Djemelyana, L. E. (2018). Potensi bakteri rizosfer Lamtoro di UB Forest sebagai pengendali penyakit rebah kecambah *Rhizoctonia solani* pada tanaman kedelai. *Skripsi*. Fakultas Pertanian, Universitas Brawijaya, Malang.
- Djuric, S., Pavic, A., Jarak, M., Pavlovic, S., Starovic, M., Pivic, R., & Josic, D. (2011). Selection of indigenous fluorescent pseudomonad isolates from maize rhizospheric soil in Vojvodina as possible PGPR. *Romanian Biotechnological Letters*, 16(5), 6580–6590.
- Dong, C. J., Wang, L. L., Li, Q., & Shang, Q. M. (2019). Bacterial communities in the rhizosphere, phyllosphere and endosphere of tomato plants. *PLoS ONE*. <https://doi.org/10.1371/journal.pone.0223847>
- Donnarumma, G., Buommino, E., Fusco, A., Paoletti, I., Auricchio, L., & Tufano, M.A. (2010). Effect of temperature on the shift of *Pseudomonas fluorescens* from an environmental microorganism to a potential human pathogen. *International Journal of Immunopathology and Pharmacology*, 23(1), 227–234.

- Dua, S., & Sindhu, S. S. (2012). Effectiveness of rhizosphere bacteria for control of root rot disease and improving plant growth of wheat (*Triticum aestivum* L.). *Journal of Microbiology Research*, 2(2), 26–35. <https://doi.org/10.5923/j.microbiology.20120202.05>
- Dutta, D., Puzari, K. C., Gogoi, R., & Dutta, P. (2014). Endophytes: exploitation as a tool in plant protection. *Brazilian Archives of Biology and Technology*, 57(5), 621–629. <https://doi.org/10.1590/S1516-8913201402043>
- Es-soufi, R., Bouzdoudi, B. El, Bouras, M., Kbiach, M. L. E., Badoc, A., & Lamarti, A. (2017). Assessment of the effect of environmental factors on the antagonism of *Bacillus amyloliquefaciens* and *Trichoderma harzianum* to *Colletotrichum acutatum*. *Advances in Microbiology*, 7, 729–742. <https://doi.org/10.4236/aim.2017.711058>
- Fan, B., Blom, J., Klenk, H. P., & Borriss, R. (2017). *Bacillus amyloliquefaciens*, *Bacillus velezensis*, and *Bacillus siamensis* form an “Operational Group *B. amyloliquefaciens*” within the *B. subtilis* species complex. *Frontiers in Microbiology*, 8, 1–15. <https://doi.org/10.3389/fmicb.2017.00022>
- Farag, M. A., Ryu, C. M., Sumner, L. W., & Paré, P. W. (2006). GC-MS SPME profiling of rhizobacterial volatiles reveals prospective inducers of growth promotion and induced systemic resistance in plants. *Phytochemistry*, 67(20), 2262–2268. <https://doi.org/10.1016/j.phytochem.2006.07.021>
- Farooq, U. & Bano, A. (2013). Screening of indigenous bacteria from rhizosphere of maize (*Zea mays* L.) for their plant growth promotion ability and antagonism against fungal and bacterial pathogens. *Journal of Animal and Plant Sciences*, 23(6), 1642–1652.
- Fickers, P. (2012). Antibiotic compounds from *Bacillus*: why are they so amazing? *American Journal of Biochemistry and Biotechnology*, 8(1), 38–43. <https://doi.org/10.3844/ajbbsp.2012.40.46>
- Figueroa-López, A. M., Cordero-Ramírez, J. D., Martínez-Álvarez, J. C., López- Meyer, M., Lizárraga-Sánchez, G. J., Félix-Gastélum, R., Castro-Martínez, C. & Maldonado-Mendoza, I. E. (2016). Rhizospheric bacteria of maize with potential for biocontrol of *Fusarium verticillioides*. *SpringerPlus*, 5(1), 330. <https://doi.org/10.1186/s40064-016-1780-x>
- Flury, P., Vesga, P., Péchy-Tarr, M., Aellen, N., Dennert, F., Hofer, N., Kupferschmied, K P. Kupferschmied, P., Metla, Z., Ma, Z., Siegfried, S., de Weert, S., Bloomberg, G. Höfte, M., Keel, C.J., & Maurhofer, M. (2017). Antimicrobial and insecticidal: Cyclic lipopeptides and hydrogen cyanide produced by plant-beneficial *Pseudomonas* strains CHA0, CMR12a, and PCL1391 contribute to insect killing. *Frontiers in Microbiology*, 8(FEB). <https://doi.org/10.3389/fmicb.2017.00100>
- Fu, S., Wei, J., Chen, H., Liu, Y., Lu, H., & Chou, Y. (2015). Indole-3-acetic acid\_ A widespread physiological code in interactions of fungi with other organisms. *Plant Signaling & Behavior*, 10(8), e1048052. <https://doi.org/http://dx.doi.org/10.1080/15592324.2015.1048052>

- Ganeshan, G., & Kumar, A.M. (2005). *Pseudomonas fluorescens*, a potential bacterial antagonist to control plant diseases. *Journal of Plant Interactions*, 1(3), 123–134. <https://doi.org/10.1080/17429140600907043>
- Gao, H., Li, P., Xu, X., Zeng, Q., & Guan, W. (2018). Research on volatile organic compounds from *Bacillus subtilis* CF-3: Biocontrol effects on fruit fungal pathogens and dynamic changes during fermentation. *Frontiers in Microbiology*, 9(MAR). <https://doi.org/10.3389/fmicb.2018.00456>
- Geetha, K., Venkatesham, E., Hindumathi, A., & Bhadraiah, B. (2014). Original Research Article : Isolation , screening and characterization of plant growth promoting bacteria and their effect on *Vigna Radita* ( L .) R . Wilczek. *Int.J.Curr.Microbiol.App.Sci*, 3(6), 799–809.
- Gheler Costa, F., Zucchi, T. D., & Soares De Melo, I. (2013). Biological control of phytopathogenic fungi by endophytic actinomycetes isolated from maize (*Zea mays* L.). *Arch. Biol. Technol.* V, 56656(6), 948–955. Retrieved from <http://www.scielo.br/pdf/babt/v56n6/a09v56n6.pdf>
- Ghosh, S. K., Pal, S., & Chakraborty, N. (2015). The qualitative and quantitative assay of siderophore production by some microorganisms and effect of different media on its production. *International Journal of Chemical Sciences*, 13(4), 1621–1629.
- Gomila, M., A. Peña, M. Mulet, J. Lalucat & E. García-Valdés. (2015) Phylogenomics and systematics in *Pseudomonas*. *Front. Microbiol.* 6:214. <https://doi.org/10.3389/fmicb.2015.00214>
- Gond, S. K., Bergen, M. S., Torres, M. S., & White, J. F. (2015). Endophytic *Bacillus* spp. produce antifungal lipopeptides and induce host defence gene expression in maize. *Microbiological Research*, 172, 79–87.
- Gow, N. A. R., Latge, J., & Munro, C. A. (2017). The Fungal Cell Wall : Structure , Biosynthesis, and Function. *Microbiol Spectrum* 5(3):1-25. <https://doi.org/10.1128/microbiolspec.FUNK-0035-2016>
- Guo, Q., Dong, W., Li, S., Lu, X., Wang, P., Zhang, X., wang, Y. & Ma, P. (2014). Fengycin produced by *Bacillus subtilis* NCD-2 plays a major role in biocontrol of cotton seedling damping-off disease. *Microbiological Research*, 169(7–8), 533–540. <https://doi.org/10.1016/j.micres.2013.12.001>
- Gupta, D., & Sinha, S. N. (2020). Production of hydrogen cyanide ( HCN ) by purple non sulfur bacterium isolated from the rice field of West Bengal. *IOSR Journal of Pharmacy And Biological Sciences*, 15(1), 16–26. <https://doi.org/10.9790/3008-1501031626>
- Gupta, G., Parihar, S. S., Ahirwar, N. K., Snehi, S. K., & Singh, V. (2015). Plant growth promoting rhizobacteria (PGPR): Current and future prospects for development of sustainable agriculture. *Journal of Microbial & Biochemical Technology*, 7(2), 96–102. <https://doi.org/10.4172/1948-5948.1000188>
- Hallmann, J., Quadt-Hallmann, A., Mahaffee, W. F., & Kloepper, J. W. (1997). Bacterial endophytes in agricultural crops. *Canadian Journal of Microbiology*, 43(10), 895–914. <https://doi.org/10.1139/m97-131>

- Hassan, S. E. (2017). Plant growth-promoting activities for bacterial and fungal endophytes isolated from medicinal plant of *Teucrium polium* L . *Journal of Advanced Research*, 8(6), 687–695. <https://doi.org/10.1016/j.jare.2017.09.001>
- Hastuti, R., Saraswati, R., & Sari, A. (2014). The effectiveness of the endophytic microbes in promoting plant growth and controlling leaf blight disease in the lowland rice. *Jurnal Tanah Dan Iklim*, 38(2), 109–118.
- Heydari, A., & Pessarakli, M. (2010). A review on biological control of fungal plant pathogens using microbial antagonists. *Journal of Biological Sciences*, 10(4), 273–290. <https://doi.org/10.3923/jbs.2010.273.290>.
- Hidayat, T. & A. Pancoro. (2008). Kajian filogenetika molekuler dan peranannya dalam menyediakan informasi dasar untuk meningkatkan kualitas sumber genetik anggrek. *Jurnal AgroBiogen* 4(1):35-40.
- Hidayah, N., & Yulianti, T. (2016). Uji Antagonisme *Bacillus cereus* terhadap *Rhizoctonia solani* dan *Sclerotium rolfsii*. *Buletin Tanaman Tembakau, Serat & Minyak Industri*, 7(1), 1. <https://doi.org/10.21082/bultas.v7n1.2015.1-8>.
- Holden, V. I., & Bachman, M. A. (2015). Diverging roles of bacterial siderophores during infection. *Metalloomsics*. <https://doi.org/10.1039/c4mt00333k>.
- Hsu, S. C., & Lockwood, J. L. (1975). Powdered Chitin Agar as a Selective Medium for Enumeration of Actinomycetes in Water and Soil. *Applied Microbiology*, 29(3), 422–426. <https://doi.org/10.1128/am.29.3.422-426.1975>.
- Idris, E. E., Iglesias, D. J., Talon, M., & Borriss, R. (2007). Tryptophan-dependent production of indole-3-acetic acid (IAA) affects level of plant growth promotion by *Bacillus amyloliquefaciens* FZB42. *MPMI*, 6, 619–626.
- Islam, S., Akanda, A. M., Prova, A., Islam, M. T., & Hossain, M. M. (2016). Isolation and identification of plant growth promoting rhizobacteria from cucumber rhizosphere and their effect on plant growth promotion and disease suppression. *Frontiers in Microbiology*, 6, 1360. <https://doi.org/10.3389/fmicb.2015.01360>
- Izhar, T., & Chakraborty, M. (2013). Genetic Analysis of Banded Leaf and Sheath Blight Resistance (*Rhizoctonia solani*) in Maize. *Journal of Pharmacognosy and Phytochemistry* 1(6), 1–5.
- Jaddoa, H. H., Hameed, I. H., & Mohammed, G. J. (2016). Analysis of volatile metabolites released by *Staphylococcus aureus* using gas chromatography-mass spectrometry and determination of its antifungal activity. *Oriental Journal of Chemistry*, 32(4), 2107–2116. <https://doi.org/10.13005/ojc/320439>
- Jain, A., & Das, S. (2016). Insight into the interaction between plants and associated fluorescent *Pseudomonas* spp. *International Journal of Agronomy*, 1–8. <https://doi.org/10.1155/2016/4269010>
- Jeger, M. J., & Viljanen-Rollinson, S. L. H. (2001). The use of the area under the disease-progress curve (AUDPC) to assess quantitative disease resistance in crop cultivars. *Theoretical and Applied Genetics*, 102(1), 32–40. <https://doi.org/10.1007/s001220051615>

- Junaid, J. M., Dar, N. A., Bhat, T. A., Bhat, A. H., & Bhat, M. A. (2013). Commercial biocontrol agents and their mechanism of action in the management of plant pathogens. *Int. J. Modern Plant & Anim. Sci*, 1(12), 39– 57.
- Kai, M., Haustein, M., & Molina, F. (2009). Bacterial volatiles and their action potential. *Applied Microbiology and Biotechnology*, 81, 1001–1012. <https://doi.org/10.1007/s00253-008-1760-3>
- Kai, M., & Piechulla, B. (2010). Impact of volatiles of the rhizobacteria, 5(444), 444–446. <https://doi.org/10.1007/s00425-009-1076-2.only>
- Kandel, S. L., Joubert, P. M., & Doty, S. L. (2017). Bacterial endophyte colonization and distribution within plants. *Mircroorganism*, 5(77), 1–26. <https://doi.org/10.3390/microorganisms5040077>
- Karmel Reetha, A., Pavani, S. L., & Mohan, S. (2014). Hydrogen cyanide production ability by bacterial antagonist and their antibiotics inhibition potential on *Macrophomina phaseolina* (Tassi.) Goid. *Int.J.Curr.Microbiol.App.Sci*, 3(5), 172–178.
- Kementerian Pertanian. (2020). Outlook Jagung, Komoditas Pertanian Subsektor Tanaman Pangan Tahun 2020. Kementerian Pertanian, Jakarta.
- Khaeruni, A., Asniah, A., Taufik, M., & Sutariati, G. (2014). Aplikasi formula campuran rizobakteri untuk pengendalian penyakit busuk akar *Rhizoctonia* dan peningkatan hasil kedelai di tanah ultisol. *Jurnal Fitopatologi Indonesia*, 10(2), 37–44. <https://doi.org/10.14692/jfi.10.2.37>
- Khan, A. L., Shahzad, R., Al-Harrasi, A., & Lee, I.-J. (2017). Endophytic Microbes: A Resource for Producing Extracellular Enzymes. In D. K. Maheshwari & K. Annapurna (Eds.), *Endophytes: Crop Productivity and Protection, Sustainable Development and Biodiversity* (pp. 95–110). Springer International Publishing AG. [https://doi.org/10.1007/978-3-319-66544-3\\_](https://doi.org/10.1007/978-3-319-66544-3_)
- Khan, M. A., Gangopadhyay, S., Jatav, H. S., Meena, R. K., Attar, S. K., Kumaawat, S., Khan, M., Khatik, C.L., Verma, K.C, Mahala, S.C. & Nitharwal, M. (2022). Fluorescent Pseudomonades: diversity, abundance and potential biotechnological applications in agriculture. In H. S. Jatav (Ed.). *Ecosystem Services*. Nova Science Publisher, Inc.
- Kim, W. G., Cho, W. D., & Lee, Y. H. (1993). Anastomosis groups and pathogenicity of isolates of *Rhizoctonia solani* and *R. zeae* from corn. In *Role offungi as Frontiers of Biosciences: Proceedings of the Asian Mycological Symposium in commemoration of the 20th anniversary of Korean Society of Mycology, October 1-4 1992, Seoul, Korea*. (pp. 147–159). Department of Plant Pathology, Agricultural Sciences Institute, Suwon 441-707, Korea Republic.
- Korsten, L., & Cook, N. (1996). Optimizing culturing conditions for *Bacillus subtilis*. *South African Avocado Growers' Association Yearbook*, 19, 54–58.
- Krishnaraj, P.U. & S. Dahale. (2014). Mineral phosphate solubilization: concepts and prospects in sustainable agriculture. *Proc Indian Natn Sci Acad*, 80(2): 389-405

- Kumar, P., Dubey, R. C., Maheshwari, D. K., Park, Y. H., & Bajpai, V. K. (2016). Isolation of plant growth-promoting *Pseudomonas* sp. PPR 8 from the rhizosphere of *Phaseolus vulgaris* L. *Archives of Biological Sciences*, 68(2), 363–374. <https://doi.org/10.2298/ABS150701028K>
- Kumar, V., Kumar, A., Deo Pandey, K., & Krishna Roy, B. (2015). Isolation and characterization of bacterial endophytes from the roots of *Cassia tora* L. *Ann Microbiol*, 65, 1391–1399. <https://doi.org/10.1007/s13213-014-0977-x>
- Kusmiyati, N. (2015). Aktivitas Penghambatan Isolat Bakteri dan Rizosfer dari Empat Jenis Bambu Toraja Terhadap Jamur Penyebab Busuk Tanaman. *Skripsi*. Fakultas Matematika dan Ilmu Pengetahuan Alam, UNS, Surakarta
- Leiwakabessy, C., & Latupeirissa, Y. (2013). Eksplorasi bakteri endofit sebagai agens hayati pada tanaman kersen (*Muntingia calabura* L.). *Jurnal Budidaya Pertanian*, 9(1), 16–21.
- Lim, S. M., Yoon, M.-Y., Choi, G. J., Choi, Y. H., Jang, K. S., Shin, T. S., Park, H.W., Yu, N.H., Kim, Y.H. & Kim, J.-C. (2017). Diffusible and volatile antifungal compounds produced by an antagonistic *Bacillus velezensis* G341 against various phytopathogenic fungi. *The Plant Pathology Journal*, 33(5), 488–498. <https://doi.org/10.5423/PPJ.OA.04.2017.0073>
- Litbang Pertanian. (2017). Kebijakan Pelaksanaan Program Peningkatan Produksi Pangan Pokok. <Https://Pse.Litbang.Pertanian.Go.Id/Ind/Pdffiles/2017-Anjak-Upsus.Pdf>.
- Liu, H., Carvalhais, L. C., Crawford, M., Singh, E., Dennis, P. G., Pieterse, C. M. J., & Schenk, P. M. (2017). Inner plant values : diversity , colonization and benefits from endophytic bacteria. *Frontiers in Microbiology*, 8, 2552. <https://doi.org/10.3389/fmicb.2017.02552>
- Liu, Y., Shi, Z., Yao, L., Yue, H., Li, H., & Li., C. (2013). Effect of IAA produced by *Klebsiella oxytoca* Rs-5 on cotton growth under salt stress. *J. Gen. Appl. Microbiol.*, 59, 59–65
- Logan, N. A., & De Vos, P. (2009). Genus I. *Bacillus* Cohn 1872. In P. De Vos, G. Garrity, Jones, N. R. Krieg, W. Ludwig, F. A. Rainey, Schleifer, K.H. & W. B. Whitman (Eds.), *Bergey's Manual of Systematic Bacteriology*, 2nd ed., vol. 3 (The Firmicutes) (pp. 19–128). Springer-Verlag, New York. pp. 19-128.
- Louden, B. C., Haarmann, D., & Lynne, A. M. (2011). Use of blue agar CAS assay for siderophore detection. *Journal of Microbiology & Biology Education*, 12(1), 51–53. <https://doi.org/10.1128/jmbe.v12i1.249>
- Lu, Z., Guo, W., & Liu, C. (2018). Isolation, identification and characterization of novel *Bacillus subtilis*. *J. Vet. Med. Sci.*, 80(3), 427–433. <https://doi.org/10.1292/jvms.16-0572>
- Madhavi, G. B., Bhattiprolu, S. L., Bharathi, S., Reddy, V. C., & Ankaiah, R. (2011). Studies on the management of banded leaf and sheath blight disease of maize (*Rhizoctonia solani* f. sp. *sasakii*) using fluorescent Pseudomonads. In M. S. Reddy & Q. Wang (Eds.), *Plant Growth-Promoting Rhizobacteria (Pgpr) For Sustainable Agriculture* (pp. 567–576). China: Proc. 2nd Asian PGPR Conference, Beijing P.R. China, pp 567-576.

- Madhavi, G. B., Grace, G. A. D., & Suresh, M. (2021). Evaluation of fungicides against *Rhizoctonia solani* f.sp *sasakii* inciting banded leaf and sheath blight disease of maize *in vitro*. *Journal of Pharmacognosy and Phytochemistry*, 10(38), 247–251. <https://doi.org/10.37273/chesci.cs205110021v>
- Madhavi, M., Reddy, P. N., Reddy, R. R., & Reddy, S. S. (2015). Morphological and molecular variability of *Rhizoctonia solani* isolates causing banded leaf and sheath blight in maize. *International Journal of Bio-Resource and Stress Management*, 6(3), 375. <https://doi.org/10.5958/0976-4038.2015.00060.3>
- Maleki, M., Mostafaee, S., Mokhtarnejad, L., & Farzaneh, M. (2010). Characterization of *Pseudomonas fluorescens* strain CV6 isolated from cucumber rhizosphere in Varamin as a potential biocontrol agent. *Australian Journal of Crop Science*, 4(9), 676–683.
- Manasikana, A., Suryanti, Sulandari, S., & Priyatmojo, A. (2021). Keragaman *Rhizoctonia solani* isolat padi varietas Ciherang, IR 64, Mekongga, dan Situ Bagendit. *Jurnal Fitopatologi Indonesia*, 17(4), 141–150. <https://doi.org/10.14692/jfi.17.4.141-150>
- Martinius, Liswarni, Y., & Miska, Y. (2010). Uji konsentrasi air rebusan daun seraiwangi *Andropogon nardus* L. (Graminae) terhadap pertumbuhan jamur *Colletotrichum gloeosporioides* Penz., penyebab penyakit antraknosa pada pepaya secara *in vitro*. *Manggaro*, 11(2), 57–64.
- Marzouk, T., Chouachi, M., Sharma, A., Jallouli, S., Mhamdi, R., Kaushik, N., & Djebali, N. (2021). Biocontrol of *Rhizoctonia solani* using volatile organic compounds of solanaceae seed-borne endophytic bacteria. *Postharvest Biology and Technology*, 181(111665), 1–4. <https://doi.org/10.1016/j.postharvbio.2021.111655>
- Mengistu, A. A. (2020). Endophytes : colonization, behaviour, and their role in defense mechanism. *International Journal of Microbiology*, 1–8.
- Meyer, M. C., Bueno, C. J., de Souza, N. L., & Yorinori, J. T. (2006). Effect of doses of fungicides and plant resistance activators on the control of *Rhizoctonia* foliarblight of soybean, and on *Rhizoctonia solani* AG1-IA *in vitro* development. *Crop Protection*, 25(8), 848–854. <https://doi.org/10.1016/j.cropro.2005.11.008>
- Mikhail, S. M., Sabet, K. K., Omar, M. R., Asran, A. A., & Kasem, K. K. (2010). Current *Rhizoctonia solani* anastomosis groups in Egypt and their pathogenic relation to cotton seedlings. *African Journal of Microbiology Research*, 4(5), 386–395.
- Mishra, P., Mishra, J., Dwivedi, S. K., & Arora, N. (2020). Microbial enzymes in biocontrol of phytopathogens. In P. Misra, S. K. Dwivedi, & N. K. Arora (Eds.), *Microbial Enzymes: Roles and Applications in Industries, Microorganisms for Sustainability 11* (pp. 259–285). Springer Nature Singapore Pte Ltd. <https://doi.org/10.1007/978-981-15-1710-5>

- Mohammad, B. T., Al Daghistani, H. I., Jaouani, A., Abdel-Latif, S., & Kennes, C. (2017). Isolation and characterization of thermophilic bacteria from jordanian hot springs: *Bacillus licheniformis* and *Thermomonas hydrothermalis* Isolates as potential producers of thermostable enzymes. *International Journal of Microbiology*, 1–12. <https://doi.org/10.1155/2017/6943952>
- Mohandass, C. (1985). 17 . Bacterial siderophores and their biotechnological applications research on siderophores. *Indian Journal of Experimental Biology*,(1981), 169–174.
- Montanez, A., Blanco, A. R., Barlocco, C., Beracochea, M., & Sicardi, M. (2012). Characterization of cultivable putative endophytic plant growth promoting bacteria associated with maize cultivars (*Zea mays L.*) and their inoculation effects in vitro. *Appl. Soil Ecol.* 58, 21–28.
- Muis, A, Djaenuddin, N., & Nonci, N. (2015). Uji virulensi beberapa isolat bakteri antagonis putative *Bacillus subtilis* sebagai agens pengendali hayati penyakit tanaman jagung. *Bul Pen Tan Serealia*, 1(1), 8–15.
- Muis, A., Djaenuddin, N., & Nonci, N. (2016). Evaluasi lima jenis inner carrier dan formulasi *Bacillus subtilis* untuk pengendalian hawar pelelah jagung (*Rhizoctonia Solani* Kuhn). *Jurnal Hama dan Penyakit Tumbuhan Tropika*, 15(2), 164. <https://doi.org/10.23960/j.hptt.215164-169>
- Muis, A., & Quimio. (2006). Effectiveness of *Bacillus subtilis* ( Ehrenberg ) Cohn against *Rhizoctonia solani* Kuhn *in vitro*. *Journal Agroland*, 13, 234–239.
- Mulyani, S., Inderiati, S., & Wisdawati, E. (2015). Study on application of endophytic actinomycetes and mycorrhizae to induce resistance toward *Rhizoctonia solani* and growth promotion activity. *Jurnal Agrotan*, 1(1), 15–24. Retrieved from <http://www.agrotan.ojsstiperyapim.com/index.php/ja/article/view/4/4>
- Mulyati, S. (2009). Pengendalian penyakit hawar pelelah daun (*Rhizoctonia solani*) menggunakan beberapa agensia hayati golongan cendawan pada tanaman jagung (*Zea mays*). *J. Agronomi*, 13(2), 37-43.,
- Munif, A., Wiyono, S., & Suwarno, S. (2012). Isolasi bakteri endofit asal padi gogo dan potensinya sebagai agens biokontrol dan pemacu pertumbuhan. *Jurnal Fitopatologi Indonesia*, 8(3), 57–64. <https://doi.org/10.14692/jfi.8.3.57>
- Nair, D. N., & Padmavathy, S. (2014). Impact of endophytic microorganisms on plants, environment and humans. *The Scientific World Journal*, 2014. <https://doi.org/10.1155/2014/250693>
- Nandi, M., Selin, C., Brassinga, A. K. C., Belmonte, M. F., Fernando, W. G. D., Loewen, P. C., & De Kievit, T. R. (2015). Pyrrolnitrin and hydrogen cyanide production by *Pseudomonas chlororaphis* strain PA23 exhibits nematicidal and repellent activity against *Caenorhabditis elegans*. *PLoS ONE*, 10(4), 1–19. <https://doi.org/10.1371/journal.pone.0123184>

- Naveed, M., Mubeen, S., Khan, S. U., Ahmed, I., Khalid, N., Suleria, H. A. R., Bano, A. & Mumtaz, A. S. (2014). Identification and characterization of rhizospheric microbial diversity by 16S ribosomal RNA gene sequencing. *Brazilian Journal of Microbiology*, 45(3), 985–993. <https://doi.org/10.1590/S1517-83822014000300031>
- Nega, A. (2014). Review on concepts in biological control of plant pathogens. *Journal of Biology, Agriculture and Healthcare*, 4(27), 33–55.
- Nivetha, L., Hema, S., Jayachandran, H., & Priyadarshini, M. (2018). Microbial siderophore and its importance in agriculture. *International Journal of Research in Engineering, Science and Management* 1(12): 214-215.
- Nuryanto, B., Priyatmojo, A., & Hadisutrisno, B. (2014). Pengaruh tinggi tempat dan tipe tanaman padi terhadap keparahan penyakit hawar pelelah. *Penelitian Pertanian Tanaman Pangan*, 33(1), 1–8.
- Ohike, T., Makuni, K., Okanami, M., & Ano, T. (2013). Screening of endophytic bacteria against fungal plant pathogens. *Journal of Environmental Sciences (China)*, 25(S1), S122–S126. [https://doi.org/10.1016/S1001-0742\(14\)60640-9](https://doi.org/10.1016/S1001-0742(14)60640-9)
- Olanrewaju, O. S., Glick, B. R., & Babalola, O. O. (2017). Mechanisms of action of plant growth promoting bacteria. *World Journal of Microbiology and Biotechnology*, 33(11), 1–16. <https://doi.org/10.1007/s11274-017-2364-9>
- Orole, O. O., & Adejumo, T. O. (2011). Bacterial and fungal endophytes associated with grains and roots of maize. *Journal of Ecology and the Natural Environment*, 3(9), 298–303. Retrieved from <http://www.academicjournals.org/jene>
- Oztekin, S., & Karbancioglu-Guler, F. (2021). Bioprospection of *Metschnikowia* sp. isolates as biocontrol agents against postharvest fungal decays on lemons with their potential modes of action. *Postharvest Biology and Technology*, 181, 111634. <https://doi.org/DOI: 10.1016/j.postharvbio2021.111634>.
- Pal, K. K., & Mc Spadden Gardener, B. (2006). Biological Control of Plant Pathogens. *The Plant Health Instructor*, 1–25. <https://doi.org/10.1094/PHI-A-2006-1117-02.Biological>
- Passari, A. K., Mishra, V. K., Leo, V. V., Gupta, V. K., & Singh, B. P. (2016). Phytohormone production endowed with antagonistic potential and plant growth promoting abilities of culturable endophytic bacteria isolated from *Clerodendrum colebrookianum* Walp. *Microbiological Research*, 193, 57–73. <https://doi.org/10.1016/j.micres.2016.09.006>
- Prashar, P., Kapoor, N., & Sachdeva, S. (2013). Rhizosphere: its structure, bacterial diversity and significance. *Rev. Environ. Sci. Biotechnol.*, 12, 1–14. <https://doi.org/10.1007/s11157-013-9317-z>
- Prasher, I. B., & Dhanda, R. K. (2017). GC-MS Analysis of secondary metabolites of endophytic *Nigrospora sphaerica* isolated from *Parthenium hysterophorus*. *International Journal of Pharmaceutical Sciences Review and Research*, 44(1), 217–223.

- Purwantara, S. (2015). Studi temperatur udara terkini di wilayah Jawa Tengah dan DIY. *Geomedia*, 13, 41–52.
- Raaijmakers, J. M., & Weller, D. M. (1998). Natural plant protection by 2,4-diacetylphloroglucinol-producing *Pseudomonas* spp. in Take-all decline soils. *Molecular Plant-Microbe Interactions*, 11(2), 144–152. <https://doi.org/10.1094/MPMI.1998.11.2.144>
- Radhakrishnan, R., & Lee, I. J. (2016). Gibberellins producing *Bacillus methylotrophicus* KE2 supports plant growth and enhances nutritional metabolites and food values of lettuce. *Plant Physiology and Biochemistry*, 109, 181–189. <https://doi.org/10.1016/j.plaphy.2016.09.018>
- Rahmah, R. P. A., Meiskha, B., & Yanti, H. (2017). Uji daya hambat filtrat zat metabolit *Lactobacillus plantarum* terhadap pertumbuhan *Shigella dysenteriae* secara in vitro. *Jurnal Biogenesis UIN Alauddin*, 5(1), 34–41.
- Rai, D., & Singh, S. K. (2018). Is banded leaf and sheath blight a potential threat to maize cultivation in Bihar? *International Journal of Current Microbiology and Applied Sciences*, 7(11), 671–683. <https://doi.org/10.20546/ijcmas.2018.711.080>
- Raju, R., Kandhasamy, S., Narayanan Subramanian, L., & Nambi Marisamy, A. (2020). Comparative management studies on banded leaf and sheath blight of maize caused by *Rhizoctonia solani* f.sp. *sasakii*. *Applied Ecology and Environmental Sciences*, 9(1), 53–57. <https://doi.org/10.12691/aees-9-1-7>
- Rambe, N. (2018). Potensi bakteri endofit isolat rumput angin (*Spinifex littoreus* (Burn F.) Merr dalam menekan pertumbuhan *Rhizoctonia solani* pada tanaman jagung. *Skripsi*. Universitas Sumatera Utara, Medan.
- Ramyasmruthi, S., Pallavi, O., Pallavi, S., Tilak, K., & Srividya, S. (2012). Chitinolytic and secondary metabolite producing *Pseudomonas fluorescens* isolated from Solanaceae rhizosphere effective against broad spectrum fungal phytopathogens. *Asian Journal of Plant Science and Research*, 2(1), 16–24.
- Rani, D. V., Reddy, N. P., & Devi, U. G. (2013). Management of maize banded leaf and sheath blight with fungicides and biocontrol agents. *Annals of Biological Research*, 4(7), 179–184.
- Rella, A., Faarnoud, A. M., & Poeta, M. D. (2016). Plasma membrane lipids and their role in fungal virulence. *Prog. Lipid Res.*, 61, 63–72.
- Rijavec, T., & Lapanje, A. (2016). Hydrogen cyanide in the rhizosphere: not suppressing plant pathogens, but rather regulating availability of phosphate. *Frontiers in Microbiology*, 7(NOV), 1–14. <https://doi.org/10.3389/fmicb.2016.01785>
- Riyaz, M., Shah, R. A., & Sivasankaran, K. (2021). *Pesticide Residues: Impacts on Fauna and the Environment*. IntechOpen. <https://doi.org/10.5772/intechopen.98379>
- Roca-Cousó, R., Flores-Félix, J. D., & Rivas, R. (2021). Mechanisms of action of microbial biocontrol agents against *Botrytis cinerea*. *Journal of Fungi*, 7(12), 1–26. <https://doi.org/10.3390/jof7121045>

- Rosenblueth, M., & Martínez-Romero, E. (2006). Bacterial endophytes and their interactions with hosts. *Molecular Plant-Microbe Interactions*, 19(8), 827–837. <https://doi.org/10.1094/MPMI-19-0827>
- Rossi-Tamisier, M., Benamar, S., Raoult, D., & Fournier, P. E. (2015). Cautionary tale of using 16S rRNA gene sequence similarity values in identification of human-associated bacterial species. *International Journal of Systematic and Evolutionary Microbiology*, 65(6), 1929–1934. <https://doi.org/10.1099/ijsm.0.000161>
- Ryan, R. P., Germaine, K., Franks, A., Ryan, D. J., & Dowling, D. N. (2007). Bacterial endophytes: Recent developments and applications. *FEMS Microbiology Letters*, 278(1), 1–9. <https://doi.org/10.1111/j.1574-6968.2007.00918.x>
- Ryu, C., Farag, M. A., Hu, C., Reddy, M. S., Wei, H., Pare, P. W., & Kloepfer, J. W. (2003). Bacterial volatiles promote growth in *Arabidopsis*. *PNAS*, 100(8), 4927–4932. <https://doi.org/10.1073/pnas.0730845100>
- Saeed, Q., Xiukang, W., Haider, F. U., Kučerik, J., Mumtaz, M. Z., Holatko, J., Naseem, M., Kintl, A., Ejaz, M., Naveed, M., Brtnicky, M. & Mustafa, A. (2021). Rhizosphere bacteria in plant growth promotion, biocontrol, and bioremediation of contaminated sites: A comprehensive review of effects and mechanisms. *International Journal of Molecular Sciences*, 22(19). <https://doi.org/10.3390/ijms221910529>
- Sagar, A., Dhusiya, K., Shukla, P. K., Singh, A., Lawrence, R., & Ramteke, P. W. (2018). Comparative analysis of production of hydrogen cyanide with production of siderophore and phosphate solubilization activity in plant growth promoting bacteria. *Vegetos*, 31(2), 130–135. <https://doi.org/10.5958/2229>
- Sagar, G., & Bhusal, K. (2019). Banded leaf and sheath blight (BLSB) of maize, its introduction, losses and management. *Journal of Soil Science and Plant Physiology*, 1(2).
- Sagar, G., Manandahar, H. K., Shrestha, S., & Bhusal, K. (2020). In-vitro and greenhouse management of banded leaf and sheath blight (BLSB) of maize, at Rampur, Chitwan, Nepal. *MOJ Ecology & Environmental Sciences*, 5(6), 238–242. <https://doi.org/10.15406/mojes.2020.05.00199>
- Salman, M., Abuamsha, R., & Barghouti, S. (2013). Interaction of fluorescent Pseudomonads with *Pythium ultimum* and *Rhizoctonia solani* in Cucumber Roots. *American Journal of Experimental Agriculture*, 3(1), 240–251. <https://doi.org/10.9734/ajea/2013/2811>
- Sarbadhikary, S. B., & Mandal, N. C. (2017). Rhizosphere field application of two plant growth promoting rhizobacteria with potent antifungal properties. *Rhizosphere*, 3, 170–175. <https://doi.org/10.1016/j.rhisph.2017.04.014>.
- Schauer, N., Steinhäuser, D., Strelkov, S., Schomburg, D., Allison, G., Moritz, T., Lundgren, K., Roessner-Tunali, U., Forbes, M. G., Willmitzer, L., Fernie, A. R., & Kopka, J. (2005). GC-MS libraries for the rapid identification of metabolites in complex biological samples. *FEBS Letters*, 579(6), 1332–1337. <https://doi.org/10.1016/j.febslet.2005.01.029>

- Schulz, A. N., Lucardi, R. D., & Marsico, T. D. (2019). Successful invasions and failed biocontrol: the role of antagonistic species interactions. *BioScience*, 69(9), 711–724. <https://doi.org/10.1093/biosci/biz075>
- Selim, H. M. M., & Essa, A. M. (2017). Application of endophytic bacteria for the biocontrol of *Rhizoctonia solani* (Cantharellales : ceratobasidiaceae) damping-off disease in cotton seedlings. *Biocontrol Science and Technology*, 27(1), 81–95. <https://doi.org/10.1080/09583157.2016.1258452>
- Semangun, H. (1991). *Penyakit-penyakit Tanaman Pangan di Indonesia*. GadjahMada University Press, Yogyakarta,.
- Setiawan, N. (2005). *Teknik Sampling*. Universitas Padjajaran, Bandung.
- Shanti, A. T., & Vittal, R. R. (2013). Biocontrol potencials of plant growth promoting rhizobacteria against Fusarium wilt disease of cucurbit. *Esci J. Plant Pathol*, 2(3), 155–161.
- Sharma, A., Diwevidi, V. D., Singh, S., Pawar, K. K., Jerman, M., Singh, L. B., Singh, S. & Srivastava, D. (2013). Biological control and its important in agriculture. *International Journal of Biotechnology and Bioengineering Research*, 4(3), 175–180. Retrieved from <http://www.ripublication.com/>
- Sharma, B. C., Singh, R. P., & Singh, R. (2020). Efficacy of bioagents and fungicides against banded leaf and sheath blight of maize caused by *Rhizoctoniasolani* f. sp. *sasakii* Kuhn. *Journal of Pharmacognosy and Phytochemistry*, 9(5), 2065–2071.
- Sharma, P., & Sharma, N. (2018). Molecular identification, production and optimization of pectinase by using *Stenotrophomonas maltophilia* P9 isolated from algal biomass of. *Int.J.Curr.Microbiol.App.Sci*, 7(1), 670–680.
- Sharma, R. C., Vasal, S. K., Gonzalez, F., Batsa, B. K., & Singh, N. N. (2002). Redressal of banded leaf and sheath blight of maize through breeding, chemical and biocontrol agents. In G. Srinivasan, P. H. Zaidi, B. M. Prasanna, F. Gonzalez, & K. Lesnick (Eds.), *Proceedings of the 8th Asian Regional Maize Workshop: New Technologies for the New Millennium*. (pp. 391–397). Bangkok, Thailand: August 5-8, 2002. Mexico, D.F.: CIMMYT.
- Shindu, S. S., RAkshiya, Y. S., & Sahu, G. (2009). Biological control of soilborne plant pathogens with rhizosphere bacteria. *Pest Technology*, 3(1), 10–21.
- Shrestha, B. K., Karki, H. S., Groth, D. E., Jungkhun, N., & Ham, J. H. (2016). Biological control activities of rice-associated *Bacillus* sp. strains against sheath blight and bacterial panicle blight of rice. *PLoS ONE*, 11(1), 1–18. <https://doi.org/10.1371/journal.pone.0146764>
- Shroff, S. (2016). Review on banded leaf and sheath blight of maize. *Management of Threatening Plant Diseases of National Importance*, 93, 39412–39415.
- Simko, I., & Piepho, H. P. (2012). The area under the disease progress stairs: Calculation, advantage, and application. *Phytopathology*, 102(4), 381–389. <https://doi.org/10.1094/PHYTO-07-11-0216>
- Singh, A., & Shahi, J. P. (2012). Banded leaf and sheath blight: an emerging disease of maize (*Zea mays* L.). *Maydica*, 57, 215–219.

- Singh, P. P., Shin, Y. C., Park, C. S., & Chung, Y. R. (1999). Biological control of *Fusarium* wilt of cucumber by chitinolytic bacteria. *Phytopathology*, 89(1), 92–99. <https://doi.org/10.1094/PHYTO.1999.89.1.92>
- Singh, S. K., Patel, M. B., Thakker, B. N., Hooda, K. S., & Barad, A. K. (2019). *Rhizoctonia solani* f.sp. *sasakii* inciting banded leaf and sheath blight of maize and their management: an overview. *International Journal of Current Microbiology and Applied Sciences*, 8(07), 2858–2866. <https://doi.org/10.20546/ijcmas.2019.807.356>
- Sivakumar, G., Sharma, R. C., & Rai, S. N. (2000). Biocontrol of banded leaf and sheath blight of maize by peat based *Pseudomonas fluorescens* formulation. *Indian Phytopath*, 53(2), 190–192.
- Slepecky, R. A., & Hemphill, H. E. (2006). Genus *Bacillus* - Nonmedical. *Prokaryotes*, 4, 530–562. Retrieved from <http://www.springerlink.com/index/10.1007/0-387-30744-3>
- Soenartiningsih. (2013). Potensi cendawan mikoriza arbuskular sebagai media pengendalian penyakit busuk pelepah pada jagung. *Iptek Tanaman Pangan*, 8(1), 48–53.
- Soenartiningsih, Akil, M., & Andayani, N. N. (2015). Cendawan tular tanah (*Rhizoctonia solani*) penyebab penyakit busuk pelepah pada tanaman jagung dan sorgum dengan komponen pengendaliannya. *Iptek Tanaman Pangan*, 10(2), 85–92.
- Soenartiningsih, Djaenuddin, N., & Saenong, M. S. (2014). Efektivitas *Trichoderma* spp. dan *Gliocladium* Spp. sebagai agens biokontrol hayati penyakit busuk pelepah daun pada jagung. *Jurnal Penelitian Pertanian Tanaman Pangan* 33(2):129-135., 33(2), 129–135.
- Soenartiningsih, S. (2012). Potensi jamur mikoriza arbuskular dalam mengendalikan penyakit busuk pelepah pada tanaman jagung. *Biosfera*, 29(1), 30–35. Retrieved from <https://journal.bio.unsoed.ac.id/index.php/biosfera/article/view/232>
- Soenartiningsih, Talanca, A., Juniorsih, & Yasin, H. G. (2008). Pengujian beberapa varietas/galur jagung terhadap penyakit busuk pelepah dan bulai. In *Prosiding Seminar Ilmiah dan Pertemuan tahunan XIX: PEI, PFI & HPTI. Makasar 5 November 2008*.
- Soesanto, L. (2000). *Ecological and Biological Control of Verticillium dahliae*. Wageningen University, Wageningen.
- Soesanto, L. (2008). *Pengantar Pengendalian Hayati Penyakit Tanaman, Suplemen ke Gulma dan Nematoda*. Rajawali Pers, Jakarta. 574 hal.
- Soesanto, L. (2009). *Pengendalian hayati patogen tanaman: peluang dan tantangan dalam menunjang ketahanan pangan berkelanjutan*. Pidato Pengukuhan Jabatan Guru Besar Pada Fakultas Pertanian Universitas Jenderal Soedirman.
- Soesanto, L., Mugiaستuti, E., & Rahayuniati, R. (2010). Study of the antagonistic mechanism of *Pseudomonas fluorescens* P60 Against *Fusarium oxysporum* f.sp. *lycopersici* in tomatoes *in vivo*. *Jurnal HPT Tropika*, 10(2), 108–115.

- Solanki, M. K., Robert, A. S., Siingh, R. K., Kumar, S., Pandey, A. K., Srivastava, A. K., & Arora, D. K. (2012). Characterization of mycolytic enzymes of *Bacillus* strains and their bio-protection role against *Rhizoctonia solani* in tomato. *Current Microbiology*, 65, 330–336.
- Soylu, S., Soylu, E. M., Kurt, S., & Ekici., O. K. (2005). Antagonistic potentials of rhizosphere-associated bacterial isolates against soilborne diseases of tomato and pepper caused by *Sclerotinia sclerotiorum* and *Rhizoctonia solani*. *Pak. J. Biol. Sci.* 8, 43–48.
- Spaepen, S., Vanderleyden, J., & Remans, R. (2007). Indole-3-acetic acid in microbial and microorganism-plant signaling. *FEMS Microbiology Reviews*, 31(4), 425–448. <https://doi.org/10.1111/j.1574-6976.2007.00072.x>
- Sulistyaningtyas, A. R., & Suprihadi, A. (2017). Produksi miselium jamur Ling ZHI (*Ganoderma lucidum*) dalam medium air kelapa tua dan tauge extract broth dengan metode kultur terendam teragitasi. *Bioma*, 19(1), 58–61.
- Sumartini. (2012). Penyakit tular tanah (*Sclerotium rolfsii* dan *Rhizoctonia solani*) pada tanaman kacang-kacangan dan umbi-umbian serta cara pengendaliannya. *Jurnal Litbang Pertanian*, 31(1), 27–34.
- Surya, M., Thiruvudainambi, S., Ebenezar, E. G., Vanniarajan, C., & Kumutha, K. (2020). GC-MS Analysis of antimicrobial compounds produced by *Bacillus* spp. against rice sheath rot pathogen *Sarocladium oryzae*, 8(1), 1417–1423.
- Tamura, K., Stecher, G., & Kumar, S. (2021). MEGA 11: Analisis Genetika Evolusi Molekuler Versi 11. Biologi dan Evolusi Molekuler <https://doi.org/10.1093/molbev/msab120>.
- Tariq, A. L., Sudha, S., & Reyaz, A. L. (2016). Isolation and screening of *Bacillus* species from sediments and application in bioremediation. *International Journal of Current Microbiology and Applied Sciences*, 5(6), 916–924. <https://doi.org/10.20546/ijcmas.2016.506.099>
- Tokpah, D. P., Li, H., Wang, L., Liu, X., Mulbah, Q. S., & Liu, H. (2016). An assessment system for screening effective bacteria as biological control agents against *Magnaporthe grisea* on rice. *Biological Control*, 103, 21–29. <https://doi.org/10.1016/j.biocontrol.2016.07.009>
- Tsegaye, Z., Assefa, F., Genene, T., Tenkegna, T., Gizaw, B., & Abatenh, E. (2018). Concept, Principle and Application of Biological Control and their Role in Sustainable Plant Diseases Management Strategies. *International Journal of Research Studies in Biosciences*, 6(4). <https://doi.org/10.20431/2349-0365.0604004>
- Tsukanova, K. A., Chebotar, V., Meyer, J. J. M., & Bibikova, T. N. (2017). Effect of plant growth-promoting Rhizobacteria on plant hormone homeostasis. *South African Journal of Botany*, 113, 91–102. <https://doi.org/10.1016/j.sajb.2017.07.007>
- Tuncer, S., & Eken, C. (2013). Anastomosis grouping of *Rhizoctonia solani* and binucleate *Rhizoctonia* spp . isolated from pepper in Erzincan , Turkey. *Plant Protect. Sci.*, 49(3), 127–131.

- Ullah, A., Mushtaq, H., Ali, U., Ali, E., & Mubeen, S. (2018). Screening , isolation , biochemical and plant growth promoting characterization of endophytic bacteria . *Microbiol Curr Res.*, 2(3), 62–68.
- Veliz, E. A., Martínez-Hidalgo, P., & Hirsch, A. M. (2017). Chitinase-producing bacteria and their role in biocontrol. *AIMS Microbiology*, 3(3), 689–705. <https://doi.org/10.3934/microbiol.2017.3.689>
- Vojvodic, M., Lazic, D., Mitrovic, P., Tanovic, B., Vico, I., & Bulajic, A. (2019). Conventional and real-time PCR assays for detection and identification of *Rhizoctonia solani* AG-2-2, the causal agent of root rot of sugar beet. *Pestic. Phytomed.*, 34(1), 19–29. <https://doi.org/10.2298/pif1901019v>
- Wahyudi, A. T., Astuti, R. I., & Giyanto. (2011). Screening of *Pseudomonas* sp. isolated from rhizosphere of soybean plant as plant growth promoter and biocontrol agent. *American Journal of Agricultural and Biological Science*, 6(1), 134–141. <https://doi.org/10.3844/ajabssp.2011.134.141>
- Wang, W., & M. Sun. (2009). Phylogenetic relationships between *Bacillus* species and related genera inferred from 16S rDNA sequences. *Brazilian Journal of Microbiology* 40: 505-521.
- Weller, D. M. (2007). *Pseudomonas* biocontrol agents of soilborne pathogens:looking back over 30 years. *Phytopathology*, 97(2), 250–256. <https://doi.org/10.1094/PHYTO-97-2-0250>
- Wenke, K., Weise, T., Warnke, R., Valverde, C., D, W., Kai, M., & Piechulla, B. (2012). Bacterial Volatiles Mediating Information Between Bacteria and Plants Bacterial Volatiles Mediating Information Between Bacteria and Plants. In G. Witzany & F. Baluska (Eds.), *Biocommunication of plants, signaling and communication in plants* 14 (pp. 327–346). Springer-Verlag Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-23524-5>
- Wensheng, C., Min, Z., & Lujiang, L. (2013). The resistance to banded leaf and sheath blight in maize of 282 inbred lines. *African Journal of Agricultural Research*, 8(16), 1547–1552. <https://doi.org/10.5897/ajar2013.6789>
- Wu, K., Fang, Z., Guo, R., Pan, B., Shi, W., Yuan, S., Guan, B , Gong, M., Shen, B. and Shen, Q. (2015). Pectin enhances bio-control efficacy by inducing colonization and secretion of secondary metabolites by *Bacillus amyloliquefaciens* SQY 162 in the rhizosphere of tobacco. *PLoS ONE*, 10(5), 1–10. <https://doi.org/10.1371/journal.pone.0127418>
- Yasmin, S., Hafeez, F. Y., Mirza, M. S., Rasul, M., Arshad, H. M. I., Zubair, M., & Iqbal, M. (2017). Biocontrol of bacterial leaf blight of rice and profiling of secondary metabolites produced by rhizospheric *Pseudomonas aeruginosa* BRp3. *Front Microbiol.*, 8, 1895. <https://doi.org/10.3389/fmicb.2017.01895>.
- Yin, C., Hulbert, S. H., Schroeder, K. L., Mavrodi, O., Mavrodi, D., Dhingra, A., & Schillinger, W. F. (2013). Role of bacterial communities in the natural suppression of *Rhizoctonia solani* bare patch disease of wheat (*Triticum aestivum* L.). *Applied and Environmental Microbiology*, 79(23), 7428–7438.

- Yulistiana, E., Widowati, H., & Sutanto, A. (2020). Plant growth promoting rhizobacteria (PGPR) dari akar bambu apus (*Gigantochola apus*) meningkatkan pertumbuhan tanaman. *Biolova*, 1(1), 1–7.
- Yusriadi. (2011). Pemanfaatan *Pseudomonas fluorescens* sebagai agens pengendali ramah lingkungan (biokontrol) penyakit tular tanah pada tanaman pisang, jahe dan kacang tanah. *Hayati Edisi Khusus.*, 7F, 55 – 59.
- Zeigler, D., & Perkins, J. (2008). *The Genus Bacillus. Practical Handbook of Microbiology, Second Edition.* <https://doi.org/10.1201/9781420009330.ch24>
- Zhang, Z., Liu, L., Lin, H., Yuan, G., Zeng, X., Shen, Y., Zhao, M., Zhao, Q & Pan, G. (2012). Identification of genes differentially expressed in maize (*Zea mays* L.) during *Rhizoctonia solani* Kuhn infection by suppression subtractive hybridization. *African Journal of Biotechnology*, 11(12), 2827–2838. <https://doi.org/10.5897/ajb10.1563>
- Zohora, U. S., Ano, T., & Rahman, M. S. (2016). Biocontrol of *Rhizoctonia solani* K1 by iturin a producer *Bacillus subtilis* RB14 seed treatment in tomato plants. *Advances in Microbiology*, 6(May), 424–431.

