

## DAFTAR PUSTAKA

- Aislabie, J & Julie, R.D. 2013. **Soil microbes and their contribution to soil services.** Manaaki Whenua Press. New Zealand.
- Alharbi, S.A., Chinnathambi, A., Murugan, A.M., Milton, W. 2012. Antibacterial activity of actinomycetes isolated from terrestrial soil of Saudi Arabia. *J.Food.Agric.Environ.* 10 (2): 1093-1097.
- Allison, F.E. 1973. **Soil organic matter and its role in crop production.** Elsevier Scientific Publishing Company. Amsterdam.
- Ausubel, F.M., Roger, B., Robert, E.K., David, D.M., J.G, John A.S. 2003. **Current protocols in molecular biology.** John Wiley & Sons. Incorporation.
- Andini, A.S. 2016. **Potensi Actinomycetes Dari Tanah Rizosfer Hutan Suranadi Lombok Barat Sebagai Penghasil Senyawa Anti-MRSA (*Methicillin-resistant Staphylococcus aureus*).** Biologi, FMIPA Universitas Brawijaya. Malang. Tesis.
- Bajpai, V.K., Rahman, A., Kang, S.C. 2008. Chemical composition and inhibitory parameters of essential oil and extracts of *Nandina domestica* Thunb. to control food-borne pathogenic and spoilage bacteria. *Int J Food Microbiol.* 125(2): 117-122.
- Burt, S. 2004. Essential oils: their antibacterial properties and potential applications in foods-a review. *Int J Food Microbiol.* 94(3): 223-253.
- Bérdy, J. 2005. Bioactive microbial metabolites. *J.Antibiot.* 58(1):1-26.
- Bertin, C., Yang, X. H., Weston, L. A. 2003. The role of root exudates and allelochemicals in the rhizosphere. *Plant Soil.* 256(1): 67–83.
- Bernier, S. P & Surette, M.G. 2013. Concentration-dependent activity of antibiotics in natural environments. *Front. Microbiol.* 4: 20.
- Bonjar, G.H.S., Fooladi, M.H., Mahdavi, M.J., Shahghasi, A. 2004. Broadspectrum, a novel antibacterial from *Streptomyces* sp. *Biotechnology.* 3: 126–130.
- Brown, A.G., Butterworth, D., Cole, M., Hanscomb, G., Hood, J.D., Reading, C., Rolinson, G.N. 1976. Naturally occurring beta-lactamase inhibitors with antibacterial activity. *J Antibiot.* 29(6): 668–669.
- Carter., M.R., & Gregorich, E. G. 2007. **Soil sampling and methods of analysis-second edition.** Taylor & Francis Group. United Kingdom.

- Cushnie, T.P & Lamb, A.J. 2011. Recent advances in understanding the antibacterial properties of flavonoids. *Int.J.Antimicrob Agents.* 38(2):99–107.
- Center for Food Security-Public Health. 2016. Methicillin Resistant *Staphylococcus aureus* (MRSA). <http://www.cfsph.iastate.edu/Factsheets/pdfs/mrsa.pdf>. Diakses tanggal 11 Januari 2017.
- Combs, S.M., & Nathan, M.V. 1998. Soil organic matter. In Recommended chemical soil test procedures for the North Central Region. [http://msue.anr.msu.edu/uploads/234/68557/Rec\\_Chem\\_Soil\\_Test\\_Proce55c.pdf](http://msue.anr.msu.edu/uploads/234/68557/Rec_Chem_Soil_Test_Proce55c.pdf). Diakses tanggal 25 Oktober 2016.
- Cook, A., & Paul, R.M. 2003. Rapid Identification Of Filamentous Actinomycetes To The Genus Level Using Genus-Specific 16S rRNA Gene Restriction Fragment Patterns. *Int.J.Syst.Evol. Microbiol.* 53: 1907–1915.
- Cornell, L. G & Joseph, K. 1981. **Notes on the actinomycetes of a forest soil in new south wales.** Forestry Commission of N.S.W. Sidney
- Cowan, M.M. 1999. Plant products as antimicrobial agents. *Clin.Microbiol.Rev.* 12(4): 564–582.
- Dai,J., Mumper, R.J. 2010. Plant phenolics: extraction, analysis and their anti-oxidant and anticancer properties. *Molecules.* 15: 7313–7352.
- DeAngelis, K.M. 2007. Measurement of soil moisture content by gravimetric method. <http://nature.berkeley.edu/soilmicro/methods/Soil%20moisture%20content.pdf>. Diakses tanggal 25 Oktober 2016.
- Dian, O. 2016. UB Resmi Memiliki Hutan Pendidikan. <http://prasetya.ub.ac.id/berita/UB-Resmi-Miliki-Hutan-Pendidikan-18947-id>. Diakses tanggal 19 November 2016.
- Dob, T., Berram dane, T., Chelghoum, C. 2005. Analysis of essential oil from the needles of *Pinus pinaster* growing in Algeria. *Chem Nat Compd.* 41(5): 545-548.
- Dob,T., Berram dane, T., Chelgoum, C.2007. Essential oil composition of *Pinus halepensis* Mill. from three different regions of Algeria. *J Essent Oil Res.*19(1): 40-43.
- Drawz, S.M., Bonomo, R.A. 2010. Three decades of beta-lactamase inhibitors. *Clin Microbiol Rev.* 23(1) 60–201.

- Engelkirk, P.G., & Janet, D.E. 2011. **Burton's-microbiology for the health sciences, ninth edition.** Lippincott Williams & Wilkins. Philadelphia.
- Eshel, A & Tom, B. 2013. **Plant roots: the hidden half, fourth edition.** CRC Press. New York.
- Evangelista, Z., & Martínez. 2013. Isolation and characterization of soil *Streptomyces* species as potential biological control agents against fungal plant pathogens. *World.J.Microbiol.Biotechnol.* 30 (5): 1639.
- Ghasemzadeh, A & Neda, G. 2011. Flavonoids and phenolic acids: role and biochemical activity in plants and human. *J.Med.Plants Res.* 5(31). 6697–6703.
- Guilfoile, P. 2007. **Antibiotic-resistant bacteria.** Chelsea House. New York.
- Georgopapadakou, N.H. 2004. Beta-lactamase inhibitors: evolving compounds for evolving resistance targets. *Exp. Opin. Investig. Drugs.* 13(10): 1307–1318.
- Gerson, E.A., Kelsey, R.G., St Clair, J.B. 2009. Genetic variation of piperidine alkaloids in *Pinus ponderosa*: a common garden study. *Ann Bot.*103(3): 447-457.
- Golińska, P., & Hanna, D. 2011. Occurrence Of Actinomycetes In Forest Soil. *Dendrobiology.* 66: 3–1. Article.
- Goto, M. 2012. **Fundamentals of bacterial plant pathology.** Academic Press. California.
- Glazer, A.N., & Nikaido, H. 2007. **Microbial biotechnology-fundamentals of applied microbiology.** Cambridge University Press. United Kingdom.
- Graninger, W., Leitha, T., Griffin, K., Witte, W., Svacina, W. 1989. Activity of clavulanate-potentiated penicillins against methicillin-resistant *Staphylococcus aureus*. *J Antimicrob Chemother.* 24: 49–54.
- Hamedo, H.A., & Abeer, H.M. 2013. Identification and Characterization of Actinomycetes for Biological Control of Bacterial Scab of *Streptomyces scabies* Isolated from Potato. *J.Biol.Agric.Healthc.* 3(13): 1-13.
- Haldar, S & Sanghamitra, S. 2015. Plant-microbe Cross-talk in the Rhizosphere: Insight and Biotechnological Potential. *Open Microbiol J.* 9: 1-7

- Isik, K., Talha, G., Fadime, O.K., Elif, C. 2014. Molecular Identification Of Different Actinomycetes Isolated From East Black Sea Region Plateau Soil By 16S rDNA Gene Sequencing. *Afr.J.Microbiol.Res.* 8(9): 878-887.
- Jensen, S. E & Paradkar, A.S. 1999. Biosynthesis and molecular genetics of clavulanic acid. *Antonie van Leeuwenhoek*. 75(1): 125–133.
- Kainulainen, P & Holopainen, J.K. 2002. Concentrations of secondary compounds in Scots pine needles at different stages of decomposition. *Soil Biol Biochem*. 34: 37-42.
- Kanti, A. 2005. *Actinomycetes Selulolitik* dari Tanah Hutan Taman Nasional Bukit Duabelas, Jambi. *Jurnal Biodiversitas*. 6(2): 85-89.
- Khan, M. R & Williams, S.T. 1975. Studies on the ecology of actinomycetes in soil-VIII: Distribution and characteristics of acidophilic actinomycetes. *Soil Biol. Biochem*. 7: 345-348.
- Khasabuli, O.Y., & Anthony, N.K. 2014. Isolation, characterization and primary screening of soil actinomycetes from Kenyatta University arboretum grounds for antibacterial activities. *J. Appl. Biosci.* 74: 6072– 6079.
- Koh, C. L., Sam, C. K., Yin, W. F., Tan, L. Y., Krishnan, T., Chong, Y. M., Chan, K.G. 2013. Plant-derived natural products as sources of anti-quorum sensing compounds. *Sensors*. 13 (5): 6217–6228.
- Kolwzan, B., Waldemar, A., Kazimierz, G., Adam, P. 2006. **Introduction to environmental microbiology.** Wydawnicza Politechniki Wrocławskiej. Wrocław.
- Kumar, A., Bohra, C., Singh, M.L.K. 2003. **Environment, pollution and management.** A.P.H Publishing Corporation. New Delhi.
- Lal, R. 2005. **Encyclopedia of soil science, second edition - two.** CRC Press. New York.
- Madigan, M.T., John, M.M., David, A.S., David, P.C. 2012. **Brock Biology of Microorganisms-Thirteenth Edition.** Benjamin Cummings. San Fransisco.
- Maleki, H., Alireza, D., Shahram, H., Sajjad, K. 2013. Isolation And Molecular Identification Of Streptomyces Spp. With Antibacterial Activity From Northwest Of Iran. *BioImpacts*. 3(3): 129-134. Research Article.

- Marhefka, E.L. 2015. Antimicrobial effects of pine essential oil against *Listeria monocytogenes*. Department of Biological Engineering. University of Arkansas. Tesis.
- Mccauley, A., Clain, J., Kathrin, O. R. 2017. **Soil pH and Organic Matter. Nutrient management modules 8.** Montana State University Extension Service. Bozeman
- Muharram, M.M., Abdelkader, M.S., Alqasoumi, S.I. 2013. Antimicrobial activity of soil actinomycetes Isolated from Alkharj, KSA. *Int.J.Microbiol.* 4(1): 12-20.
- Musilova, L., Jakub, R., Marketa, P., Tomas, M., Ondrej, U. 2016. Effects of Secondary Plant Metabolites on Microbial Populations: Changes in Community Structure and Metabolic Activity in Contaminated Environments. *Int. J. Mol. Sci.* 17 (8): 1205.
- Metsämuuronen, S & Heli, S. 2014. Antibacterial Compounds in Predominant Trees in Finland: Review. *J Bioproc Biotechniq.* 4(5): 167-180.
- Nasrabadi R, G., Greiner, R., Alikhani, H.A., Hamed, Y.B. 2013. Distribution Of Actinomycetes In Different Soil Ecosystems And Effect Of Media Composition On Extracellular Phosphatase Activity. *J.Soil Sci.Plant Nutr.* 13(1): 223-236.
- Nurkanto, A., Heddy, J., Andria, A., Wellyzar, S. 2012. Screening Antimicrobial Activity of Actinomycetes Isolated from Raja Ampat, West Papua, Indonesia. *Mak.J.Sci.* 16 (1): 21-26.
- Nurkusuma, D. D. 2009. Faktor Yang Berpengaruh Terhadap Kejadian *Methicillin-Resistant Staphylococcus aureus* (MRSA) Pada Kasus Infeksi Luka Pasca Operasi Di Ruang Perawatan Bedah Rumah Sakit Dokter Kariadi Semarang. Universitas Diponegoro Semarang. Semarang. Tesis.
- Neto, A.B., Hirata, D.B., Filho, L.C.M.C., Bellao, C., Junior, B., Hokka, C.O. 2005. A study on clavulanic acid production by *streptomyces claviger* in batch, Fed-batch and continuous processes. *Braz. J. Chem. Eng.* 22(04): 557-563.
- Oleszek,W., Stochmal, A., Karolewski, P., Simonet, A.M., Macias, F.A., Tava, A. 2002. Flavonoids from *Pinus sylvestris* needles and their variation in trees of different origin grown for nearly a century at the same Area. *Biochem Syst Ecol.*30(11): 1011-1022.
- Oskay, M. 2009. Antifungal and Antibacterial Compounds from *Streptomyces* strain. *Afr.J.Biotechnol.* 8 (13); 3007-3017.

- Oskay, M., Üsame, T., Cem, A. 2004. Antibacterial activity of some actinomycetes isolated from farming soils of Turkey. *Afr.J. Biotechnol.* 3 (9): 441-446.
- PubChem. 2017. Virginiamycin M1. <https://pubchem.ncbi.nlm.nih.gov/compound/16220095#section=Top>. Diakses tanggal 11 Januari 2017.
- Procópio, R.E.D., Ingrid, R. D. S, Mayra, K.M., João, L.D.A., Janete, M.D.A. 2012. Antibiotics produced by *Streptomyces*. *Braz. J. Infect. Dis.* 16 (5): 466-471.
- Rahman, A.M., Mohammad Z.I., Mohammed A.U.I. 2011. Antibacterial Activities of Actinomycete Isolates Collected from Soils of Rajshahi, Bangladesh. *Biotechnol.Res.Int.* 2011(2011): 1-6. Research Article.
- Reading, C & Cole, M. 1977. Clavulanic acid: a beta-lactamase-inhibiting beta-lactam from *Streptomyces clavuligerus*. *Antimicrob. Agents Chemother.* 11(5): 852-857.
- Robertson, S. 2011. Direct Estimation of Organic Matter by Loss on Ignition: Methods. [https://www.sfu.ca/soils/lab\\_documents/Estimation Of Organic Matter By LOI.pdf](https://www.sfu.ca/soils/lab_documents/Estimation Of Organic Matter By LOI.pdf). Diakses tanggal 25 Oktober 2016.
- Royal College of Nursing. 2005. **Methicillin-resistant *staphylococcus aureus* (mrsa) guidance for nursing staff**. RCN. London.
- Ryan, K.J., & George, R. 2004. **Sherris medical microbiology: an introduction to infectious diseases fourth edition**. McGraw-Hill Companies. United States of America.
- Satari, M. H. 2007. Multidrugs Resistance (MDR) Bakteri Terhadap Antibiotik. FKG. Universitas Padjadjaran.
- Saleghamari, E., Soleiman, M., Tafacori, V. 2015. Antibacterial Activity of Some *Actinomycetes* Isolated from Soil of Albroz Province, Iran. *P.Bio. Sci.* 5(2): 159-167.
- Singer, A. C., Crowley, D. E., Thompson, I.P. 2003. Secondary plant metabolites in phytoremediation and biotransformation. *Trends Biotechnol.* 21(3): 123–130.
- Sharma, D., Talwinder, K., Chadha, B.S., Rajesh K.M. 2011. Antimicrobial Activity of Actinomycetes Against Multidrug Resistant *Staphylococcus aureus*, *E. coli* And Various Other Pathogens. *Trop.J.Pharm.Res.* 10(6): 801-808.
- Sherameti, I & Ajit, V. 2010. **Soil biology- soil heavy metals**. Springer-Verlag Berlin Heidelberg. Berlin.

- Smith, J.E. 2009. **Biotechnology-fifth edition.** Cambridge University Press. New York.
- Tan, K.H. 2008. **Soils in the humid tropics and monsoon region of indonesia.** CRC Press. New York.
- Tanvir, R., Imran, S., Shahida, H., Andreas, K., Stephanie, G. 2016. Rare Actinomycetes *Nocardia Caishijiensis* And *pseudonocardia Carboxydivorans* As Endophytes, Their Bioactivity And Metabolites Evaluation. *Microbiol. Res.* 185: 22–35.
- Tsuchiya ,H., Sato, M., Miyazaki,T., Fujiwara,S., Tanigaki, S., Ohyama, M., Tanaka, T., Iinuma, M. 1996. Comparative study on the antibacterial activity of phytochemical flavanones against methicillin-resistant *Staphylococcus aureus*. *J. Ethnopharmacol.* 50: 27–34.
- Usha, K.M., Vijayalakshmi, M., Sudhakar, P., Sreenivasulu, K. 2012. Isolation, Identification, and Molecular Characterization of Rare *Actinomycetes* from Mangrove Ecosystem of Nizampatnam. *Malays.J.Microbiol.* 8(2): 83-91.
- Wen, A., Delaquis, P., Stanich, K., Toivonen,P. 2003. Antilisterial activity of selected phenolic acids. *Food Microbiol.* 20(3): 305–311.
- Wood, M. 1995. **Environmental soil biology- second edition.** Springer Science+Business Media. UK.
- Yuan, G.J., Pei-Bo, L., Yang, H., Xiao-Yu, W., Guo-Quan, T., Sai-Jin, W. 2012. Chemical Screening Of Sixty On *Actinomycetes* Strain And Anti-Methicillin Resistant *Staphylococcus Aureus* Assays Of Targets Strains. *Chin.J.Nat.Med.* 10 (2): 155-160.
- Zeyan, Wu., Stacey, E.H., Wenxiong, L., Bailian, Li., Linkun, W., Changxun, F., Zhixing, Z. 2015. Soil Microbial Community Structure and Metabolic Activity of *Pinus elliottii* Plantations across Different Stand Ages in a Subtropical Area. *PLoS ONE* 10(8): 1-11.

