

## DAFTAR PUSTAKA

- Aisyah, S. N., S. Sulastri, R. Retmi, R. H. Yani, E. Syafriani, L. Syukriani, F. Fatchiyah, A. Bakhtiar, dan J. Jamsari. 2017. Suppression of *Colletotrichum gloeosporioides* by Indigenous Phyllobacterium and its Compatibility with Rhizobacteria. *Asian Journal of Plant Pathology*, 11: 139-147.
- Aisyah, S. N., J. Maldoni, I. Sulastri, W. Suryati, Y. Marlisa, L. Herliana, L. Syukriani, R. Renfiyeni, dan J. Jamsari. 2019. Unraveling the Optimal Culture Condition for the Antifungal Activity and IAA Production of Phylloplane *Serratia plymuthica*. *Plant Pathology Journal*, 18: 31-38.
- Alamdar, N., B. Rasekh, dan F. Yazdian. 2018. Effects of Fe/SDS and Au nanoparticles on *Pseudomonas aeruginosa* Bacterial Growth and Biosurfactant Production. *IET Nano Biotechnology*, 12: 520-525.
- Almansoory, A. F., H. A. Hasan, M. Idris, S. R. S. Abdullah, dan N. Anuar. 2017. Biosurfactant Production by the Hydrocarbon-Degrading Bacteria (HDB) *Serratia marcescens*: Optimization Using Central Composite Design (CCD). *Journal of Industrial and Engineering Chemistry*, 47: 272-280.
- Augustine, S., S. Bhavsar, dan B. Kapadnis. 2005. Production of a Growth Dependent Metabolite Active Against Dermatophytes by *Streptomyces rochei* AK 39. *Indian J Med Res*, 121: 164-70.
- Babashpour, S., S. Aminzadeh, N. Farrokhi, A. Karkhane, dan K. Haghbeen. 2012. Characterization of a Chitinase (Chit62) from *Serratia marcescens* B4A and its Efficacy as a Bioshield Against Plant Fungal Pathogens. *Biochemical Genetics*, 50: 722-735.
- Bradford, M. M. 1976. A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding. *Analytical Biochemistry*, 72: 248-254.
- Brandl, M., B. Quinones, dan S. Lindow. 2001. Heterogeneous Transcription of an Indoleacetic Acid Biosynthetic Gene in *Erwinia herbicola* on Plant Surfaces. *Proceedings of the National Academy of Sciences*, 98: 3454-3459.
- Bruins, M. R., S. Kapil, dan F. W. Oehme. 2000. Microbial Resistance to Metals in the Environment. *Ecotoxicology and Environmental Safety*, 45: 198-207.
- Chakraborty, S., S. Bhattacharya, dan A. Das. 2012. Optimization of Process Parameters for Chitinase Production by a Marine Isolate of *Serratia*

*marcescens*. *International Journal of Pharmacy and Biological Sciences*, 2: 8-20.

Chen, Z. M., Q. Li, H. M. Liu, N. Yu, T. J. Xie, M. Y. Yang, P. Shen, dan X. D. Chen. 2010. Greater Enhancement of *Bacillus Subtilis* Spore Yields in Submerged Cultures by Optimization of Medium Composition through Statistical Experimental Designs. *Applied Microbiology and Biotechnology*, 85: 1353-1360.

Clements, T., T. Ndlovu, S. Khan, dan W. Khan. 2019. Biosurfactants Produced by *Serratia* Species: Classification, Biosynthesis, Production and Application. *Applied Microbiology and Biotechnology*, 103: 589-602.

Dahiya, N., R. Tewari, R. P. Tiwari, dan H. G. Singh. 2005. Chitinase from *Enterobacter* sp. NRG4: Its Purification, Characterization and Reaction Pattern. *Electronic Journal of Biotechnology*, 8: 14-25.

Davis, K. E., S. J. Joseph, dan P. H. Janssen. 2005. Effects of Growth Medium, Inoculum Size, and Incubation Time on Culturability and Isolation of Soil Bacteria. *Applied and Environmental Microbiology*, 71: 826-834.

Demain, A. L. dan E. Inamine. 1970. Biochemistry and Regulation of Streptomycin and Mannosidostreptomycinase (Alpha-D-Mannosidase) Formation. *Bacteriological Reviews*, 34: 1-19.

Dhinakaran, A., R. Rajasekaran, dan S. Jayalakshmi. 2012. Antiphytopathogenic Activity of Bacterial Protein of A Marine *Corynebacterium* sp. Isolated from Mandapam, Gulf of Mannar. *Journal of Biopesticides*, 5: 17-22.

Duta, P. F., F. Pessôa De França, dan L. M. De Almeida Lopes. 2006. Optimization of Culture Conditions for Exopolysaccharides Production in *Rhizobium* sp. using the Response Surface Method. *Electronic Journal of Biotechnology*, 9: 391-399.

Escobar-Díaz, E., E. Lopez-Martin, M. H. Del Cerro, A. Puig-Kroger, V. Soto-Cerrato, B. Montaner, E. Giralt, J. A. García-Marco, R. Perez-Tomas, dan A. García-Pardo. 2005. AT514, a Cyclic Depsipeptide from *Serratia Marcescens*, Induces Apoptosis of B-Chronic Lymphocytic Leukemia Cells: Interference With The Akt/NF-Kb Survival Pathway. *Leukemia*, 19: 572-579.

Fadhil, L., A. Kadim, dan A. Mahdi. 2014. Production of Chitinase by *Serratia marcescens* from Soil and its Antifungal Activity. *J Nat Sci Res*, 4: 80-6.

Fernandez-Acero, F. J., M. Carbú, C. Garrido, I. Vallejo, dan J. M. Cantoral. 2007. Proteomic Advances in Phytopathogenic Fungi. *Current Proteomics*, 4: 79-88.

- Fineran, P. C., L. Everson, H. Slater, dan G. P. Salmond. 2005. A GntR Family Transcriptional Regulator (Pigt) Controls Gluconate-Mediated Repression and Defines A New, Independent Pathway for Regulation of the Tripyrrole Antibiotic, Prodigiosin, in *Serratia*. *Microbiology*, 151: 3833-3845.
- Frankowski, J., M. Lorito, F. Scala, R. Schmid, G. Berg, dan H. Bahl. 2001. Purification and Properties of Two Chitinolytic Enzymes of *Serratia plymuthica* HRO-C48. *Archives of microbiology*, 176: 421-426.
- Frey-Klett, P., P. Burlinson, A. Deveau, M. Barret, M. Tarkka, dan A. Sarniguet. 2011. Bacterial-Fungal Interactions: Hyphens Between Agricultural, Clinical, Environmental, and Food Microbiologists. *Microbiology and Molecular Biology reviews*, 75: 583-609.
- Garbeva, P. V., J. Van Veen, dan J. Van Elsas. 2004. Microbial Diversity in Soil: Selection of Microbial Populations by Plant and Soil Type and Implications for Disease Suppressiveness. *Annu. Rev. Phytopathol.*, 42: 243-270.
- Gaur, A. S. dan S. S. Gaur. 2006. *Statistical Methods for Practice and Research: A guide to data analysis using SPSS*, Sage.
- Gerc, A. J., L. Song, G. L. Challis, N. R. Stanley-Wall, dan S. J. Coulthurst. 2012. The Insect Pathogen *Serratia Marcescens* Db10 uses a Hybrid Non-Ribosomal Peptide Synthetase-Polyketide Synthase to Produce the Antibiotic Althiomycin. *PLoS One*, 7: 644-673.
- Gesheva, V., V. Ivanova, dan R. Gesheva. 2005. Effects of Nutrients on the Production of AK-111-81 Macrolide Antibiotic by *Streptomyces Hygroscopicus*. *Microbiological Research*, 160: 243-248.
- Gomaa, E. Z. 2012. Chitinase Production by *Bacillus thuringiensis* and *Bacillus licheniformis*: Their Potential in Antifungal Biocontrol. *The Journal of Microbiology*, 50: 103-111.
- Goswami, D., K. Patel, S. Parmar, H. Vaghela, N. Muley, P. Dhandhukia, dan J. N. Thakker. 2015. Elucidating Multifaceted Urease Producing Marine *Pseudomonas aeruginosa* BG as a Cogent PGPR and Bio-control Agent. *Plant Growth Regulation*, 75: 253-263.
- Gravel, V., H. Antoun, dan R. J. Tweddell. 2007. Growth Stimulation and Fruit Yield Improvement of Greenhouse Tomato Plants by Inoculation with *Pseudomonas putida* or *Trichoderma atroviride*: Possible Role of Indole Acetic Acid (IAA). *Soil Biology and Biochemistry*, 39: 1968-1977.

- Haddix, P. L., S. Jones, P. Patel, S. Burnham, K. Knights, J. N. Powell, dan A. Laform. 2008. Kinetic Analysis of Growth Rate, ATP, and Pigmentation Suggests an Energy-Spilling Function for the Pigment Prodigiosin of *Serratia marcescens*. *Journal of Bacteriology*, 190: 7453-7463.
- Han, Y., B. Yang, F. Zhang, X. Miao, dan Z. Li. 2009. Characterization of Antifungal Chitinase from *Marine Streptomyces* sp. DA11 Associated with South China Sea Sponge *Craniella australiensis*. *Marine Biotechnology*, 11: 132-140.
- Harnas, H. 2015. Analisis Protein Diferensial Aktivitas Antagonis Bakteri UBCR\_12 terhadap Jamur *Colletotrichum gloeosporioides* pada Berbagai Sumber Nutrisi Nitrogen dan Karbon. Thesis: Agronomi. Universitas Andalas. 87 hal.
- Hazeena, S. H., P. Binod, dan A. Pandey. 2019. Response Surface Modeling and Optimization of Culture Media in Fermentative Production of 2, 3-Butanediol. *Renewable Energy*, 98: 216-220.
- Herliana, L. 2019. Pengaruh Durasi Kultur terhadap Aktivitas Antagonis Bakteri *Serratia plymuthica* Strain UBCF\_13/-R\_36/-R\_36 terhadap Berbagai Spesies Jamur Fitopatogen. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 79 hal.
- Islam, M. R., Y. T. Jeong, Y. S. Lee, dan C. H. Song. 2012. Isolation and Identification of Antifungal Compounds from *Bacillus subtilis* C9 Inhibiting the Growth of Plant Pathogenic Fungi. *Mycobiology*, 40: 59-65.
- Ismet, A., S. Vikineswary, S. Paramaswari, W. Wong, A. Ward, T. Seki, H. Fiedler, dan M. Goodfellow, M. 2004. Production and Chemical Characterization of Antifungal Metabolites from *Micromonospora* sp. M39 isolated from Mangrove Rhizosphere Soil. *World Journal of Microbiology and Biotechnology*, 20: 523-528.
- Janssen, P. H., P. S. Yates, B. E. Grinton, P. M. Taylor, dan M. Sait. 2002. Improved Culturability of Soil Bacteria and Isolation in Pure Culture of Novel Members of the Divisions Acidobacteria, Actinobacteria, Proteobacteria, and Verrucomicrobia. *Applied and Environmental Microbiology*, 68: 2391-2396.
- Karnwal, A. 2009. Production of Indole Acetic Acid by *Fluorescent Pseudomonas* in the Presence of L-Tryptophan and Rice Root Exudates. *Journal of Plant Pathology*, 91: 61-63.
- Khanna, A., M.Khanna, dan A. Aggarwal. 2013. *Serratia marcescens*-a Rare Opportunistic Nosocomial Pathogen and Measures to Limit its Spread in Hospitalized Patients. *Journal of Clinical and Diagnostic Research: JCDR*, 7: 243-246.

- Kumar, M., R. Morya, E. Gnansounou, C. Larroche, dan I. S. Thakur. 2017. Characterization of Carbon Dioxide Concentrating Chemolithotrophic Bacterium *Serratia* sp. ISTD04 for Production of Biodiesel. *Bioresource Technology*, 243: 893-897.
- Lee, C. M., R. E. Monson, R. M. Adams, dan G. P. Salmond. 2017. The LacI–Family Transcription Factor, Rbsr, is a Pleiotropic Regulator of Motility, Virulence, Siderophore and Antibiotic Production, Gas Vesicle Morphogenesis and Flotation in *Serratia*. *Frontiers in Microbiology*, 8: 1678-1692.
- Lim, Y. H., H. L. Foo, T. C. Loh, R. Mohamad, R. A. Rahim, dan Z. Idrus. 2019. Optimized Medium Via Statistical Approach Enhanced Threonine Production by *Pediococcus Pentosaceus* TL-3 Isolated From Malaysian Food. *Microbial Cell Factories*, 18: 125-144.
- Lin, S. S., W. F. Dou, W. H. Y. Xu, H. Z. Li, Z. H. Xu, dan Y. H. Ma. 2007. Optimization of Medium Composition for the Production of Alkaline  $\beta$ -Mannanase by Alkaliphilic *Bacillus* sp. N16-5 Using Response Surface Methodology. *Applied Microbiology and Biotechnology*, 75: 1015-1022.
- Liu, J., Li, G. dan Y. Sui. 2017. Optimization of Culture Medium Enhances Viable Biomass Production and Biocontrol Efficacy of the Antagonistic Yeast, *Candida diversa*. *Frontiers in Microbiology*, 8: 2-7.
- Liu, J. dan C. Vipulanandan. 2013. Effects of Au/Fe and Fe Nanoparticles on *Serratia* Bacterial Growth and Production of Biosurfactant. *Materials Science and Engineering: C*, 33: 3909-3915.
- Macció, D., Fabra, A. dan S. Castro. 2002. Acidity and Calcium Interaction Affect the Growth of *Bradyrhizobium* sp. and the Attachment to Peanut Roots. *Soil Biology and Biochemistry*, 34: 201-208.
- Macedo, J. A., L. D. Sette, dan H. H. Sato. 2007. Optimization of Medium Composition for Transglutaminase Production by a Brazilian soil *Streptomyces* sp. *Electronic Journal of Biotechnology*, 10: 618-626.
- Malik, D. K. dan S. S. Sindhu. 2011. Production of Indole Acetic Acid by *Pseudomonas* sp.: Effect of Coinoculation With *Mesorhizobium* sp. Cicer on Nodulation and Plant Growth Of Chickpea (*Cicer arietinum*). *Physiology and Molecular Biology of Plants*, 17: 25-32.
- Marlisa, Y. 2019. Pengaruh pH Media Kultur terhadap Aktivitas Antijamur Senyawa Ekstraseluler bakteri *Serratia plymuthica* Strain UBCF\_13. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 49 hal.

- Masurekar, P. S. 2008. Nutritional and Engineering Aspects of Microbial Process Development. *Natural Compounds as Drugs Volume I. Birkhauser Baser.* Springer. 65: 293-328.
- Matsuyama, T., T. Tanikawa, dan Y. Nakagawa. 2011. Serrawettins and other Surfactants Produced by *Serratia*. *Biosurfactants. Springer*, 20: 93-120.
- Mukherjee, S., P. Das, dan R. Sen. 2006. Towards Commercial Production of Microbial Surfactants. *TRENDS in Biotechnology*, 24: 509-515.
- Münch, S., U. Lingner, D. S. Floss, N. Ludwig, N. Sauer, dan H. B. Deising. 2008. The Hemibiotrophic Lifestyle of *Colletotrichum* species. *Journal of Plant Physiology*, 165: 41-51.
- Navarro, L. M., T. Antonio, dan M. G. Esteban. 2010. Stationary Phase in Gram-Negative Bacteria. *FEMS microbiology reviews*, 34: 476-495.
- Okay, S., M. Özdal, dan E. B. Kurbanoğlu. 2013. Characterization, Antifungal Activity, and Cell Immobilization of a Chitinase from *Serratia marcescens* MO-1. *Turkish Journal of Biology*, 37: 639-644.
- Okereke, V. dan R. Wokocho. 2007. In vitro Growth of Four Isolates of *Sclerotium rolfsii* Sacc in the Humid Tropics. *African Journal of Biotechnology*, 6: 1879-1881.
- Oskay, M. 2011. Effects of some Environmental Conditions on Biomass and Antimicrobial Metabolite Production by *Streptomyces* sp., KGG32. *International Journal of Agriculture & Biology*, 13: 317-324.
- Ovadis, M., X. Liu, S. Gavriel, Z. Ismailov, I. Chet, dan L. Chernin. 2004. The Global Regulator Genes from Biocontrol Strain *Serratia plymuthica* IC1270: Cloning, Sequencing, and Functional Studies. *Journal of Bacteriology*, 186: 4986-4993.
- Patten, C. L. dan B. R. Glick. 2002. Regulation of Indoleacetic Acid Production in *Pseudomonas putida* GR12-2 by Tryptophan and the Stationary-Phase Sigma Factor RpoS. *Canadian Journal of Microbiology*, 48: 635-642.
- Petersen, L., D. Hughes, R. Hughes, L. Dimichele, P. Salmon, dan N. Connors. 2001. Effects of Amino Acid and Trace Element Supplementation on Pneumocandin Production by *Glarea Lozoyensis*: Impact on Titer, Analogue Levels, and the Identification of New Analogues of Pneumocandin B<sub>0</sub>. *Journal of Industrial Microbiology and Biotechnology*, 26: 216-221.

- Raza, W., X. Yang, H. Wu, Q. Huang, Y. Xu, dan Q. Shen. 2010. Evaluation of Metal Ions ( $Zn^{2+}$ ,  $Fe^{3+}$  And  $Mg^{2+}$ ) Effect on the Production of Fusaricidin-Type Antifungal Compounds by *Paenibacillus polymyxa* SQR-21. *Bioresource Technology*, 101: 9264-9271.
- Retmi, R. 2016. Uji Kombinasi Senyawa Ekstraseluler Empat Isolat Bakteri Antagonis terhadap Jamur *Colletotrichum gloeosporioides* secara *In-vitro*. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 47 hal.
- Rodrigues, L., J. Teixeira, R. Oliveira, dan H. C. Van Der Mei. 2006. Response Surface Optimization of the Medium Components for the Production of Biosurfactants by Probiotic Bacteria. *Process Biochemistry*, 41: 1-10.
- Ruiz, B., A. Chávez, A. Forero, Y. García-Huante, A. Romero, M. Sánchez, D. Rocha, B. Sánchez, R. Rodríguez-Sanoja, dan S. Sánchez. 2010. Production of Microbial Secondary Metabolites: Regulation by the Carbon Source. *Critical Reviews in Microbiology*, 36: 146-167.
- Sair, A. T. dan Z. A. Khan. 2018. Prevalence of Antibiotic and Heavy Metal Resistance in Gram Negative Bacteria Isolated from Rivers in Northern Pakistan. *Water and Environment Journal*, 32: 51-57.
- Sánchez, L., M. Hedström, M. Delgado, dan O. Delgado. 2010. Production, Purification and Characterization of Serracin A, A Novel Cold-Active Antimicrobial Produced by *Serratia proteamaculans* 136. *Journal of Applied Microbiology*, 109: 936-945.
- Saputra, W. 2015. Aktivitas Antagonistik Isolat UBCR\_036 dan UBCF\_13 pada Berbagai Level pH Selama Ko-Kultur dengan Jamur *Colletotrichum gloeosporioides*. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 56 hal.
- Santos, D. K. F., R. D. Rufino, J. M. Luna, V. A. Santos, dan L. A. Sarubbo. 2016. Biosurfactants: Multifunctional Biomolecules of the 21st Century. *International Journal of Molecular Sciences*, 17: 401-432.
- Santos, S. M., J. M. Carbajo, dan J. C. Villar. 2013. The Effect of Carbon and Nitrogen Sources on Bacterial Cellulose Production and Properties from *Gluconacetobacter sucrofermentans* CECT 7291 Focused on its use in Degraded Paper Restoration. *BioResources*, 8: 3630-3645.
- Scherlach, K. dan C. Hertweck. 2009. Triggering Cryptic Natural Product Biosynthesis in Microorganisms. *Organic & Biomolecular Chemistry*, 7: 1753-1760.

- Sentia, S. 2017. Pengaruh pH dan Penambahan Ion Logam terhadap Aktivitas Antagonis Senyawa Ekstraseluler Bakteri *Serratia plymuthica* UBCR\_12 dalam Menekan Pertumbuhan Jamur *Colletotrichum gloeosporioides*. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 60 hal.
- Shanmugaiah, V., N. Mathivanan, N. Balasubramanian, dan P. Manoharan. 2008. Optimization of Cultural Conditions for Production Of Chitinase by *Bacillus laterosporous* MML2270 Isolated from Rice Rhizosphere Soil. *African Journal of Biotechnology*, 7: 2563-2568.
- Sharma, M. dan S. Kulshrestha. 2015. *Colletotrichum gloeosporioides*: an Anthracnose Causing Pathogen of Fruits and Vegetables. *Biosciences Biotechnology Research Asia*, 12: 1233-1246.
- Singh, L., S. Mazumder, dan T. Bora. 2009. Optimisation of Process Parameters for Growth and Bioactive Metabolite Produced by a Salt-Tolerant and Alkaliphilic Actinomycete, *Streptomyces tanashiensis* strain A2D. *Journal de Mycologie Médicale Journal of Medical Mycology*, 19: 225-233.
- Spaepen, S., J. Vanderleyden, dan R. Remans. 2007. Indole-3-Acetic Acid in Microbial and Microorganism-Plant. Signaling. *FEMS Microbiology Reviews*, 31: 425-448.
- Stankovic, N., L. Senerovic, T. Ilic-Tomic, B. Vasiljevic, dan J. Nikodinovic-Runic. 2014. Properties and Applications of Undecylprodigiosin and Other Bacterial Prodigiosins. *Applied Microbiology and Biotechnology*, 98: 3841-3858.
- Stockwell, V., K. Johnson, D. Sugar, dan J. Loper. 2011. Mechanistically Compatible Mixtures of Bacterial Antagonists Improve Biological Control of Fire Blight of Pear. *Phytopathology*, 101: 113-123.
- Su, C., Z. Xiang, Y. Liu, X. Zhao, Y. Sun, Z. Li, L. Li, F. Chang, T. Chen, dan X. Wen. 2016. Analysis of the Genomic Sequences and Metabolites of *Serratia surfactantifaciens* sp. nov. YD25T that Simultaneously Produces Prodigiosin and Serrawettin W2. *BMC genomics*, 17: 865-884.
- Sulastri, S. 2016. Uji Potensi Antagonis Isolat Bakteri Penghasil Senyawa Antraksnosa Terhadap Beberapa Jamur Fitopatogen. Skripsi: Fakultas Pertanian, Universitas Andalas. Padang.
- Suryati, W. 2018. Pengaruh Penambahan Ion Logam terhadap Efektivitas Senyawa Ekstraseluler Bakteri *Serratia plymuthica* Strain UBCF\_13 dalam Menghambat Pertumbuhan Tiga Spesies Jamur Fitopatogen. Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 74 hal.



- Tasharrofi, N., S. Adrangi, M. Fazeli, H. Rastegar, M. R. Khoshayand, dan M. A. Faramarzi. 2011. Optimization of Chitinase Production by *Bacillus pumilus* using Plackett-Burman Design and Response Surface Methodology. *Iranian Journal of Pharmaceutical Research: IJPR*, 10: 759-768.
- Tendulkar, S., Y. Saikumari, V. Patel, S. Raghotama, T. Munshi, P. Balaram. dan B. Chattoo. 2007. Isolation, Purification and Characterization of an Antifungal Molecule Produced by *Bacillus licheniformis* BC98, and its Effect on Phytopathogen *Magnaporthe grisea*. *Journal of Applied Microbiology*, 103: 2331-2339.
- Than, P., R. Jeewon, K. Hyde, S. Pongsupasamit, O. Mongkolporn, dan P. Taylor. 2008. Characterization and Pathogenicity of *Colletotrichum* species Associated with Anthracnose on Chilli (*Capsicum* spp.) in Thailand. *Plant Pathology*, 57: 562-572.
- Wang, K., P. S. Yan, dan L. X. Cao. 2014. Chitinase from a Novel Strain of *Serratia marcescens* JPP1 for Biocontrol of Aflatoxin: Molecular Characterization and Production Optimization using Response Surface Methodology. *BioMed Research International*, 14: 1-8.
- Wang, N., X. Gao, X. Yan, Z. Li, Z. Kang, L. Huang, dan Q. Han. 2015. Purification, Characterization, and Heterologous Expression of an Antifungal Protein from the Endophytic *Bacillus Subtilis* Strain Em7 And its Activity Against *Sclerotinia sclerotiorum*. *Genetics and Molecular Research*, 14: 15488-15504.
- Wang, S. L., J. H. Peng, T. W. Liang, dan K. C. Liu. 2008. Purification and Characterization of a Chitosanase from *Serratia marcescens* TKU011. *Carbohydrate Research*, 343: 1316-1323.
- Wang, Y., X. Fang, F. An, G. Wang, dan X. Zhang. 2011. Improvement of Antibiotic Activity of *Xenorhabdus bovienii* by Medium Optimization using Response Surface Methodology. *Microbial Cell Factories*, 10: 2-15.
- Washburn, Q. L., S. Spradlin, dan C. F. Weber. 2017. Addition of Zinc, Manganese, and Iron to Growth Media Triggers Antibiotic Production in Bacterial Isolates from the Lower Atmosphere. *Journal of Young Investigators*, 32: 7-11.
- Wei, Y. H., H. C. Lai, S. Y. Chen, M. S. Yeh, dan J. S. Chang. 2004. Biosurfactant Production by *Serratia marcescens* SS-1 and its Isogenic strain SMΔR defective in SpnR, a Quorum-Sensing LuxR Family Protein. *Biotechnology Letters*, 26: 799-802.
- Weir, B., P. Johnston, dan U. Damm. 2012. The *Colletotrichum gloeosporioides* Species Complex. *Studies in Mycology*, 73: 115-180.

- Wilf, N. M. dan G. P. Salmond. 2012. The Stationary Phase Sigma Factor, Rpos, Regulates the Production of a Carbapenem Antibiotic, a Bioactive Prodigiosin and Virulence in the Enterobacterial Pathogen *Serratia* sp. ATCC 39006. *Microbiology*, 158: 648-658.
- Xia, J. L., J. Xiong, R. Y. Zhang, K. K. Liu, B. Huang, dan Z. Y. Nie. 2011. Production of Chitinase and its Optimization from a Novel Isolate *Serratia marcescens* XJ-01. *Indian Journal of Microbiology*, 51: 301-306.
- Xiao, Z., P. Liu, J. Y. Qin, dan P. Xu. 2007. Statistical Optimization of Medium Components for Enhanced Acetoin Production from Molasses and Soybean Meal Hydrolysate. *Applied Microbiology and Biotechnology*, 74: 61-68.
- Yani, R. H. 2012. Seleksi Bakteri Antagonis dari Tanaman Sawi (*Brassica juncea*. L) sebagai Biofungisida terhadap *Colletotrichum gloeosporioides* Penyebab Antraknosa pada Tanaman Cabai (*Capsicum annum*). Skripsi: Fakultas Pertanian, Universitas Andalas, Padang. 59 hal.
- Yodsuwan, N., A. Owatworakit, A. Ngaokla, N. Tawichai, dan N. Soykeabkaew. 2012. Effect of Carbon and Nitrogen Sources on Bacterial Cellulose Production for Bionanocomposite Materials. Thailand : 1st Mae Fah Luang University International Conference, At Mae Fah Luang University, Chiang Rai.
- Yu, J. H. dan N. Keller. 2005. Regulation of Secondary Metabolism in Filamentous Fungi. *Annu. Rev. Phytopathol.*, 43: 437-458.
- Zarei, M., S. Aminzadeh, H. Zolgharnein, A. Safahieh, M. Daliri, K. A. Noghabi, A. Ghoroghi, dan A. Motallebi. 2011. Characterization of a Chitinase with Antifungal Activity from a Native *Serratia marcescens* B4A. *Brazilian Journal of Microbiology*, 42: 1017-1029.
- Zerrouk, I. Z., M. Benchabane, L. Khelifi, K. Yokawa, J. Ludwig-Müller, dan F. Baluska. 2016. A *Pseudomonas* Strain Isolated from Date-Palm Rhizospheres Improves Root Growth and Promotes Root Formation in Maize Exposed to Salt and Aluminum Stress. *Journal of Plant Physiology*, 191: 111-119.
- Zhang, C., X. Zhang, dan S. Shen. 2014. Proteome Analysis for Antifungal Effects of *Bacillus subtilis* KB-1122 on *Magnaporthe grisea* P131. *World Journal of Microbiology and Biotechnology*, 30: 1763-1774.

