

DAFTAR PUSTAKA

- Abbott, D. W., dan A.B. Boraston. 2008. Structural biology of pectin degradation by Enterobacteriaceae. *Microbiol Mol Biol Rev.* 72: 301– 316.
- Adams, C.J., M. Manley-Harris, P.C. Molan. 2009. The origin of methylglyoxal in New Zealand Manuka (*Leptospermum scoparium*) honey. *Carbohydrate Research*, 344: 1050–1053.
- Aizawa, S.I. 2004. Chapter 7: Flagella. *Molecular Medical Microbiology: Second Edition.* Academic Press. 125-146.
- Alemu, K. 2014. Real-Time PCR and Its Application in Plant Disease Diagnostics. *Advances in Life Science and Technology* 27: 39–50.
- Almasaudi, S.B., A.A.M. Al-Nahari, E.S.M. Abd El-Ghany, *et al.*, 2017. Antimicrobial effect of different types of honey on *Staphylococcus aureus*. *Saudi.J.Biol.Sci.*, 24(6):1255-1261.
- Alvarez-Suarez, J.M., M. Gasparri, T. Y. Forbes-Hernandez, L. Mazzoni, dan F. Giampieri. 2014. The Composition and Biological Activity of Honey: A Focus on Manuka Honey. *Foods* 3: 420-432.
- Arya, M., I.S. Shergill, M. Williamson, L. Gommersall, dan N. Arya. 2005. Basic principles of real-time quantitative PCR. *Expert Rev. Mol. Diagn.* 5(2): 1–11.
- Atanasova, L., M. Dubey, M. Gruji. M. Gudmundsson, C. Lorenz, *et al.* 2018. Evolution and functional characterization of pectate lyase PEL12, a member of a highly expanded *Clonostachys rosea* polysaccharide lyase 1 family. *BMC Microbiology* 18 (178).
- Ava, S. 2018. Pengaruh madu tanaman manuka (*Leptospermum scoparium*) terhadap virulensi *Pectobacterium carotovorum*. Skripsi. Fakultas Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Barh, Debmalya & Khan, Muhammad Sarwar & Davies, Eric. (2015). *PlantOmics: The Omics of Plant Science.*
- Booth, I.R., G.P. Ferguson, S. Miller, *et al.* 2003. Bacterial production of methylglyoxal: A survival strategy or death by misadventure?. *Biochem Soc Trans*, 31(6):1406–1418.
- Bouzo D, Cokcetin N. N., Li L., Ballerin B., Bottomley A.L., Lazenby L., Whitchurch C.B., Paulsen I.T., Hassan K.A., Harrya E.J. 2020. Characterizing the Mechanism of Action of an Ancient Antimicrobial, Manuka Honey, against *Pseudomonas aeruginosa* Using Modern Transcriptomics. *American Society for Microbiology.* 5(3):1-16.
- Caffall, K.H., D. Mohnen. 2009. The structure, function, and biosynthesis of plant cell wall pectic polysaccharides. *Carbohydrate Research* 344:1879–1900.
- Carding, S.R., D. Lu, K. Bottomly, 1992. A polymerase chain reaction assay for the detection and quantitation of cytokine gene expression in small numbers of cells. *J.Immunol.Methods.*, 151:277-287.



- Carter, D.A., S.E. Blair, N.N. Cokcetin, *et al.*, 2016. Therapeutic Manuka Honey : No Longer So Alternative. *Front.Microbiol.*, 7:569.
- Caruso, A., G. Licciardello, R. La Rosa, V. Catara, P. Bella, 2016. Mixed infection of *Pectobacterium carotovorum* subsp. *carotovorum* and *P. carotovorum* subsp. *brasiliensis* in tomato stem rot in Italy. *J.plant.Pathol.*, 98(3):661-665.
- Chatterjee, A., Y. Cui, Y. Liu, C.K. Dumenyo, dan A.K. Chatterjee,. 1995. Inacti- vation of *rsmA* leads to overproduction of extracellular pectinases, cellulases, and proteases in *Erwinia carotovora* subsp. *carotovora* in the absence of the starvation/ cell density-sensing signal, N-(3-oxohexanoyl)-L-homoserine lactone. *Applied Environment Microbiology* 61:1959–1967.
- Charkowski, A. O, 2018. The changing face of bacterial soft-rot diseases. *Annu.Rev.Phytopathol*, 56: 269–288.
- Chilcott, G. S., and K. T. Hughes. 2000. Coupling of flagellar gene expres- sion to flagellar assembly in *Salmonella enterica* serovar *typhimurium* and *Escherichia coli*. *Microbiol. Mol. Biol. Rev.* 64:694-708.
- Choi, O., dan J. Kim. 2013. *Pectobacterium carotovorum* subsp. *brasiliense* Causing Soft Rot on Paprika in Korea. *Journal of Phytopathology*, 161(2), 125–127.
- Cokcetin, N.N., M. Pappalardo, L.T. Campbell, P. Brooks, D.A. Carter, S.E. Blair, *et al.* 2016. The Antibacterial Activity of Australian Leptospermum Honey Correlates with Methylglyoxal Levels. *PLoS One.* 11(12).
- Cui, Y., A. Chatterjee, H. Yang, dan A.K. Chatterjee. 2008. Regulatory network controlling extracellular proteins in *Erwinia carotovora* subsp. *carotovora*: *FlhDC*, the master regulator of flagellar genes, activates *rsmB* regulatory RNA production by affecting *gacA* and *hexA* (*lrhA*) expression. *J Bacteriol* 190:4610–4623.
- Davidsson, P.R., T. Kariola, O. Niemi, dan E.T. Palva. 2013. Pathogenecity of and plant immunity to soft rot pectobacteria. *Frontiers in Plant Science* 4(191):1-13.
- DeBoer, S.H., X. Li, L.J. Ward, 2012. *Pectobacterium* spp. associated with bacterial stem rot syndrome of potato in Canada. *Phytopathol.*, 102(10):937-947.
- Shah, D. S. H. and R. E. Sockett. 1995. Analysis of the *motA* flagellar motor gene from *Rhodobacter sphaeroides* a bacterium with a unidirectional, stop-start flagellum. *Mol. Microbiol.*, 17(5): 961–969.
- Delepelaire, P., dan C. Wandersman. 1989. Protease secretion by *Erwinia chrysanthemi* Proteases B and C are secreted as zymogens without a signal peptide. *Journal of Biology Chemistry.* 264:9083–9089.
- Duarte, V., S. H. De Boer, L. J Ward, dan A.M.R. De Oliveira. 2004. Characterization of atypical *Erwinia carotovora* strains causing blackleg of potato in Brazil. *Journal of Applied Microbiology* 96(3): 535–545.
- Eaton, C.V. 2014. *Manuka: The Biography of an Extraordinary Honey.* Exisle Publishing. Auckland.



- El Tassa, S.O.M., dan V. Duarte. 2006. Identificação de *Pectobacterium carotovorum* subsp. *brasiliensis* através de PCR-RFLP do Gene recA. *Fitopatol. Bras.* 31(1):23-28.
- Emon, V. J.M. 2016. The Omics Revolution in Agricultural Research. *J Agric Food Chem.* 13;64(1):36-44.
- Fan, J., L. Ma, C. Zhao, J. Yan, S. Che, Z. Zhou *et al.* 2020. Transcriptome of *Pectobacterium carotovorum* subsp. *carotovorum* PccS1 infected in calla plants in vivo highlights a spatiotemporal expression pattern of genes related to virulence, adaptation, and host response. *Molecular Plant Pathology* 21(6):871–891.
- Ferguson, G., S. Töttemeyer, M. MacLean, *et al.* 1998. Methylglyoxal production in bacteria: Suicide or survival?. *Arch Microbiol*, 170(4):209–218.
- Figaj, D, P. Ambroziak, T. Przepiora, J. Skorko-Glonek. The role of proteases in the virulence of plant pathogenic bacteria. *International Journal of Molecular Sciences* 20(672).
- Fukasawa K.M., H.Toshiyuki, O. Yukio dan H. Junzo. 2011. Metal preferences zinc-binding motif on metalloproteases. *Journal of Amino Acids* : 1-7.
- Fujimoto T, Yasuoka S, Aono Y, Nakayama T, Ohki T, Sayama M, *et al.*, 2016. First report of potato blackleg caused by *Pectobacterium carotovorum* subsp. *brasiliense* in Japan. *Plant.Dis.*, 101:241.
- Girma, A., W. Seo, dan R.C. Shel. 2019. Antibacterial activity of varying UMF-graded Manuka honeys. *PLoS ONE*, 14(10), 1–9.
- Giulietti, A., L. Overbergh, D. Valckx, B. Decallonne, R. Bouillon, dan C. Mathieu. 2001. An Overview of Real-Time Quantitative PCR: Applications to Quantify Cytokine Gene Expression. *Methods* 401: 386–401.
- Goslinski, M., D. Nowak, L. Klebukowska. 2020. Antioxidant properties and antimicrobial activity of manuka honey versus Polish honeys. *J Food Sci Technol* 57(4):1269–1277.
- Gottsberger, R.A., H. Huss, 2016. *Pectobacterium carotovorum* subsp. *brasiliensis* causing a soft rot on Styrian oil pumpkin in Austria. *New.Dis.Reports.*, 33:12.
- Guttenplan, S. B., dan D. B. Kearns. 2013. Regulation of flagellar motility during biofilm formation. *FEMS Microbiol Rev* 37(6): 849–871.
- Haque, M.M., H. Hirata, S. Tsuyumu, 2015. SlyA regulates motA and motB, virulence and stress-related genes under conditions induced by the PhoP-PhoQ system in *Dickeya dadantii* 3937. *Res.Microbiol.*, 166(6):467-475
- Henke, J. M., dan B.L. Bassler. 2004. Bacterial social engagements. *Trends Cell Biol* 14(11): 648–656.
- Hugouvieux-Cotte-Pattat, N. 2016. Metabolism and Virulence Strategies in *Dickeya*–Host Interactions. *Progress in Molecular Biology and Translational Science* 142 : 93-129.
- Irish, J. S. Blair, dan D.A. Carter, 2011. The Antibacterial Activity of Honey Derived from Australian Flora. *PlosOne*, 6(3).



- Jackson, R.W. 2009. *Plant Pathogenic Bacteria: Genomic and Molecular Biology*. Caister Academic Press. Norfolk.
- Jahn, CR., D.K. Willis, dan A.O. Charkowski. 2008. The flagellar sigma factor FliA is required for *Dickeya dadantii* virulence. *Molecular Plant-Microbe Interactions* 21(11) 1431–1442.
- Jenkins, R., N. Burton, R. Cooper, 2011. Manuka honey inhibits cell division in methicillin-resistant *Staphylococcus aureus*. *J.Antimicrob.Chemother.*, 66: 2536-2542.
- Jenkins, R., N. Burton, R. Cooper, 2014. Proteomic and genomic analysis of methicillin-resistant *Staphylococcus aureus* (MRSA) exposed to manuka honey in vitro demonstrated down-regulation of virulence markers. *J.Antimicrob.Chemother.*, 69:603-615.
- Jia, Y. 2012. Real-Time PCR. In *Methods in Cell Biology: Chapter 3 (12)*.
- Johnston, M., M. McBride, D. Dahiya, R. Owusu-Apenten, dan P. Singh Nigam, 2018. Antibacterial activity of Manuka honey and its components: An overview. *AIMS Microbiology*, 4(4), 655–664.
- Joko, T., A. Soffan, M.S. Rohman, 2019. A novel subspecies-specific primer targeting the gyrase B gene for the detection of *Pectobacterium carotovorum* subsp. *brasiliense*. *Biodiv.*, 20(10):3042-3048.
- Joko, T., A. Subandi, N. Kusumandari, A. Wibowo, 2014. Archives of phytopathology and plant protection activities of plant cell wall-degrading enzymes by bacterial soft rot of orchid. *Arch.of.Phytopathology.Plant.Prot.*, 47(10):1239-1250.
- Josenhans, C., S. Suerbaum. 2002. The role of motility as a virulence factor in bacteria. *International Journal of Medical Microbiology* 291(8): 605-614.
- Joshi, J.R., S. Burdman, A. Lipsky, S. Yariv, dan I. Yedidia. 2016. Plant phenolic acids affect the virulence of *Pectobacterium aroidearum* and *P. carotovorum* ssp. *brasiliense* via quorum sensing regulation. *Molecular Plant Pathology* 17(4): 487–500.
- Kado, C.I. 2010. *Plant Bacteriology*. APS Press, Minnesota, USA.
- Kwenda, S., T.V. Motlolometsi., P.R.J. Birch, L.N. Moleleki, 2016. RNA-seq Profiling reveals defense responses in a tolerant potato cultivar to stem infection by *Pectobacterium carotovorum* ssp. *brasiliense*. *Front.Plant.Sci.*, 7:1-18.
- Lee, D.H, J. Lim, J. Lee, *et al.*, 2013. Characterization of genes required for the pathogenicity of *Pectobacterium carotovorum* subsp. *carotovorum* Pcc21 in Chinese cabbage. *Microbiol.*, 159:1487–1496.
- Lee, D.H., J. Kim, J. Lim, S. Han, S. Heu, 2014. Genetic diversity of *Pectobacterium carotovorum* subsp. *brasiliensis* isolated in Korea. *Plant.Pathol.J.* 30(2):117-124.
- Lehtimäki, S., A. Rantakari, J. Routtu, A. Tuikkala, J. Li, O. Virtaharju et al. 2003. Characterization of the hrp pathogenicity cluster of *Erwinia carotovora* subsp. *carotovora*: High basal level expression in a mutant is associated with reduced virulence. *Molecular Genetics and Genomics* 270(3): 263–272.



- Leite, L.N., E.G. Haan, M. de Krijger, P. Kastelein, P.S. van der Zouwen, G.W.V. van der Bovenkamp, 2014. First report of potato blackleg caused by *Pectobacterium carotovorum* subsp. *brasiliensis* in the Netherlands. *J.Appl.Microbiol.*, 29:24.
- Liu, H., S.J. Coulthurst, L. Pritchard, P.E. Hedley *et al.*, 2008. Quorum sensing coordinates brute force and stealth modes of infection in the plant pathogen *Pectobacterium atrosepticum*. *PLoS Pathog.* 4(6).
- Livak, K.J. dan T.D. Schmittgen. 2001. Analysis of relative gene expression data using real-time quantitative PCR and the $2^{-\Delta\Delta CT}$ method . *Methods* 25:402–408.
- Lowe, R., N. Shirley, M. Bleackley, S. Dolan, dan T. Shafee. 2017. Transcriptomics technologies. *PLoS computational biology* 13(5).
- Lucas, G.B., C.L. Campbell, dan L.T. Lucas. 2001. Introduction to Plant Disease: Identification and Management, Second Edition. Kluwer Academic Publishers. Boston.
- Ma, B., Hibbing, M.E., Kim, H.S., Reedy, R.M., Yedidia, I., Breuer, J., Glasner, J.D., Perna, N.T. *et al.*, 2007. Host range and molecular phylogenies of the Soft Rot Enterobacterial genera *Pectobacterium* and *Dickeya*. *Phytopathol.*, 97: 1150–1163.
- Macnab, R. M. 1996. Flagella and Motility. ASM Press, American Society for Microbiology, Washington, D.C.
- Maddocks, S.E., M.S. Lopez, R.S. Rowlands, R.A. Cooper, 2017. Manuka honey inhibits the development of *Streptococcus pyogenes* biofilms and causes reduced expression of two fibronectin binding proteins. *Microbiol.*, 158:781-790.
- Majtan J. 2011. Methylglyoxal—A Potential Risk Factor of Manuka Honey in Healing of Diabetic Ulcers. Commentary. Hindawi Publishing Corporation. doi:10.1093/ecam/nejq013
- Marin-Rodriguez, M., J. Orcghard, dan G.B. Seymour. 2002. Pectate lyases, cell wall degradation and fruit softening. *Journal of Experimental Botany* 53(377): 2115-2119.
- Marits. R., V. Kõiv, E. Laasik, dan A. Mäe. 1999. Isolation of an extracellular protease gene of *Erwinia carotovora* subsp. *carotovora* strain SCC3193 by transposon mutagenesis and the role of pro- tease in phytopathogenicity. *Microbiology.* 145:1959–1966.
- Matsunami, H., H.Y Young, A.M. Vladimir, N. Keiichi and A.S. Fadel. 2016. Structural flexibility of the periplasmic protein, Flga, regulates flagellar p-ring assembly in *Salmonella enterica*. *Scientific Reports* 6:1–3.
- Mattinen, L., R. Nissinen, T. Riipi, N. Kalkkinen, M. Pirhonen, 2007. Host-extract induced changes in the secretome of the plant pathogenic bacterium *Pectobacterium atrosepticum*. *Proteomics.*, 7(19):3527-3537.
- Mavric, E., S. Wittmann, G. Barth, T Henle T. 2008. Identification and quantification of methylglyoxal as the dominant antibacterial constituent of Manuka (*Leptospermum scoparium*) honeys from New Zealand. *Mol Nutr Food Res.* 52(4):483–9.
- Mcloone, P., M. Warnock, L. Fyfe, 2016. Honey : A realistic antimicrobial for disorders of the skin. *J.Microbiol.Immunol.Infect.*, 49(2):161-167.



- McNally, R.R., R.D. Curland, B.T. Webster, A.P. Robinson, C.A. Ishimaru, 2017. First report of *Pectobacterium carotovorum* subsp. *brasiliensis* causing blackleg and stem rot in commercial and seed potato fields in Minnesota and North Dakota. *Plant.Dis.*, 101(9):1672.
- Meng, X., A. Chai, Y. Shi, X. Xie, Z. Ma, Li B, 2017. Emergence of bacterial soft rot in cucumber caused by *Pectobacterium carotovorum* subsp. *brasiliense* in China. *Plant.Dis.*, 101(2):279-287.
- Mirmajlessi, S. M., E. M., LoitMänd, dan S. M. Mansouripour. 2015. Real-time PCR applied to study on plant pathogens: Potential applications in diagnosis – A review. *Plant Protection Science* 51(4):177–190.
- Moleleki, L.N., E.M. Onkendi, A. Mongae, G.C. Kubheka, 2013. Characterisation of *Pectobacterium wasabiae* causing blackleg and soft rot diseases in South Africa. *Eur.J.Plant.Pathol.*, 135(2):279-288.
- Moraes, A.J.G., E.B. Souza, R.L.R. Mariano, *et al.*, 2017. First report of *Pectobacterium aroidearum* and *Pectobacterium carotovorum* subsp. *brasiliensis* causing soft rot of *Cucurbita pepo* in Brazil. *Plant.Dis.*, 101(2):379.
- Murata, H., A. Chatterjee, Y. Liu, A.K. Chatterjee, 1994. Regulation of the production of extracellular pectinase, cellulase, and protease in the soft rot bacterium *Erwinia carotovora* subsp. *carotovora*: Evidence that *aepH* of *E. carotovora* subsp. *carotovora* 71 Activates Gene Expression in *E. carotovora* sub. *Appl.Environ.Microbiol.*, 60(9):3150-3159.
- Naas, H., M. Sebahia, B. Orfei, F. Rezzonico, R. Buonauro, C. Moretti, 2018. *Pectobacterium carotovorum* subsp. *brasiliense* and *Pectobacterium carotovorum* subsp. *carotovorum* as causal agents of potato soft rot in Algeria. *Eur.J.Plant.Pathol.*, 151(4):1027-1034.
- Nabhan, S., S. H. De Boer, E. Maiss, dan K. Wydra. 2012. Taxonomic relatedness between *Pectobacterium carotovorum* subsp. *carotovorum*, *Pectobacterium carotovorum* subsp. *odoriferum* and *Pectobacterium carotovorum* subsp. *brasiliense* subsp. nov. *Journal of Applied Microbiology*, 113(4), 904–913.
- Nam, H.S., J.Y. Park, B.R. Kang, S.H. Lee, J.S. Cha, dan Y.C. Kim. 2011. Alternative Sigma Factor HrpL of *Pectobacterium carotovorum* 35 is Important for the Development of Soft-rot Symptoms. *Research in Plant Disease* 17(2): 111–120.
- Ntushelo, K., J. Mafofo, 2002. Draft genome of a South African strain of *Pectobacterium carotovorum* subsp. *brasiliense*. *Brazilian.J.Microbiol.*, 48(1):11-12.
- Okhiria, O.A. A.F.M. Henriques, N.F. Burton, A. Peters, R.A. Cooper., 2009. Honey modulates biofilms of *Pseudomonas aeruginosa* in a time and dose dependent manner. *J.ApiProd.ApiMed. Sci.*, 1(1):6-10.
- Omadjela O., A.Naraharia, J. Strumillob, H. Mélidac, O. Mazurd, V. Bulonec, dan J.Zimmer. 2013. BcsA and BcsB form the catalytically active core of bacterial cellulose synthase sufficient for in vitro cellulose synthesis. *Proc. Natl. Acad. Sci. U. S. A.*, 110(44):17856–17861.
- Onkendi, E.M., A.M. Ramesh, S. Kwenda, S. Naidoo, dan L. Moleleki. 2016. Draft genome sequence of a virulent *Pectobacterium carotovorum* subsp. *brasiliense* isolate causing soft rot of cucumber. *Genome Announcements* 4(1).



- Orchard, J., G.B. Seymour, dan M.C. Maro. 2002. Pectate Lyases , Cell Wall Degradation and Fruit Softening. *Journal of Experimental Botany* 53(377): 2115-2119.
- Palacio-Bielsa, A., M. Cambra, dan M. Lopez. 2009. PCR detection and identification of plant-pathogenic bacteria : updated review of protocols (1989-2007). *Journal of Plant Pathology*, 91(2): 249–297.
- Palomäki, T., P. Richard, R. , R. Martin, Saarilahti H.T. 2020. A putative three-dimensional targeting motif of polygalacturonase (PehA), a protein secreted through the type II (GSP) pathway in *Erwinia carotovora*. *Molecular Microbiology*. 43(3): 585-596.
- Panda, P., M. Fiers, K. Armstrong, A.R. Pitman, 2012. First report of blackleg and soft rot of potato caused by *Pectobacterium carotovorum* subsp. *brasiliensis* in New Zealand. *New Dis.Rep.*, 26(15):588-2044.
- Parmar, M.S. 2014. *Encyclopedia of Toxicology (Third Edition): Methylglyoxal*. 302-305. <https://doi.org/10.1016/B978-0-12-386454-3.01225-2>
- Pissavin, C., J. Robert-Baudouy, dan N. Hugouvieux-Cotte-Pattat. 1996. Regulation of PelZ, a Gene of the PelB-PelC Cluster Encoding a New Pectate Lyase of *Erwinia Chrysanthemi* 3937. *Journal of Bacteriology* 178(24):7187–96.
- Popović, T., I. Kostić, Z. Milićević, *et al.*, 2017. Essential oils as an alternative bactericides against soft-rot bacteria, *Pectobacterium carotovorum* subsp. *carotovorum*. VIII.In.Sci.Agric.Symp.“Agrosym 2017”, Jahorina, Bosnia Herzegovina, *B Proc.* 2017:1377-1383.
- Portier, P., J. Pédrón, G. Taghouti, M. E. Fischer-Le SauxCaullireau, C. Bertrand, *et al.* 2019. Elevation of *Pectobacterium carotovorum* subsp. *odoriferum* to species level as *Pectobacterium odoriferum* sp. nov., proposal of *Pectobacterium brasiliense* sp. nov. and *Pectobacterium actinidiae* sp. nov., emended description of *Pectobacterium carotovorum* and. *International Journal of Systematic and Evolutionary Microbiology* 69(10):3207–3216.
- Prigent-Combaret. C., O. Zghidi-Abouzid, G. Effantin, P. Lejeune, S. Reverchon, dan W. Nasser. 2012. The nucleoid-associated protein Fis directly modulates the synthesis of cellulose, an essential component of pellicle-biofilms in the phytopathogenic bacterium *Dickeya dadantii*. *Mol. Microbiol.*, 86(1):172–186..
- Putri, I.N.S. 2013. Pengaruh aktivitas antibakteri madu manuka terhadap pembentukan biofilm bakteri penyebab penyakit busuk lunak. Skripsi. Fakultas Pertanian. Universitas Gadjah Mada. Yogyakarta.
- Queiroz, M.F., G.M.R. Albuquerque, M.A.S. Gama, *et al.*, 2017. First report of soft rot in kale caused by *Pectobacterium carotovorum* subsp. *brasiliensis* in Brazil. *Plant.Dis.*, 101(12):2144.
- Rabie, E., J.C. Serem, H.M. Oberholzer, A.R.M.Gaspar, dan M.J. Bester. 2016. How methylglyoxal kills bacteria: An ultrastructural study. *Ultrastructural Pathology* : 1-5.
- Radonic, A., S. Thulke, I.M. Mackay, O. Landt, W. Siegert, dan A. Nitsche. 2004. Guideline to reference gene selection for quantitative real-time PCR. *Biochemical And Biophysical Research Communications*. 313(4):856-862.



- Roberts^a, A.E.L., H.L. Brown, R.E. Jenkins, 2015. On the antibacterial effects of manuka honey : mechanistic insights. *Res.Rep.Biol.*, 6:215–224.
- Roberts^b, A.E.L., S.E. Maddocks, R.A. Cooper, 2015. Manuka honey reduces the motility of *Pseudomonas aeruginosa* by suppression of flagella-associated genes. *J.Antimicrob.Chemother.*, 70:716-725.
- Roberts, J.K.M. 2002. Proteomics and a future generation of plant molecular biologists. In: Town C. (eds) *Functional Genomics*. Springer. Dordrecht.
- Rossi, E., M. Paroni, dan P. Landini. 2018. Biofilm and motility in response to environmental and host-related signals in Gram negative opportunistic pathogens. *Journal of Applied Microbiology* 125(6):1587–1602.
- Rückriemen, J., O. Klemm, T. Henle, 2017. Manuka honey (*Leptospermum scoparium*) inhibits jack bean urease activity due to methylglyoxal and dihydroxyacetone. *Fod.Chem.*, 230:540-546.
- Saarilahti, H.T., M. Pirhonen, M.B. Karlsson, D. Flego, E.T. Palva, 1992. Expression of *pehA*-*bla* gene fusions in *Erwinia carotovora* subsp. *carotovora* and isolation of regulatory mutants affecting polygalacturonase production. *MGG.Mol.Gen.Genet.*, 234(1):81-88.
- Saarilahti, H.T. 1993. Characterization of polygalacturonases. *Gene* 124: 145-147.
- Schaad, N. W., dan R. D. Frederick. 2002. Real-time PCR and its application for rapid plant disease diagnostics. *Canadian Journal of Plant Pathology* 24(3): 250–258.
- Schneider, C. A., W. S. Rasband, dan K. W. Eliceiri. 2012. NIH Image to ImageJ: 25 years of image analysis. *Nature methods* 9(7):671-675.
- Sharkey, F.H., I.M. Banat, R. Marchant, 2004. Minireview: Detection and quantification of gene expression in environmental bacteriology. *Appl.Environ.Microbiol.* 70(7):3795-3806.
- Stephenson, F. H. 2016. Real-Time PCR. In *Calculations for Molecular Biology and Biotechnology (Third Edition)*: Chapter 9 - Real-Time PCR. Academic Press. London. 215-230.
- Sundin, G.W., N. Wang, 2018. Antibiotic Resistance in Plant-Pathogenic Bacteria. *Annu.Rev.Phytopathol*, 56:161–80.
- Sutrisno, F.A. Susanto, P. Wijayanti, M.D. Retnoningrum, T.R. Nuringtyas, T. Joko, dan Y.A. Purwestri. 2018. Screening of resistant Indonesian black rice cultivars against bacterial leaf blight. *Euphytica.*, 214(11):1-12.
- Takle, G.W., I.K. Toth, M.B. Brurberg, 2007. Evaluation of reference genes for real-time RT-PCR expression studies in the plant pathogen *Pectobacterium atrosepticum*. *BMC.Plant.Biol.*, 7:1-9.
- Tsang, A. S., A. J. Dart, C. M. Dart, dan L. Jeffcott. Mechanisms of action of manuka honey in an equine model of second intention wound healing: current thoughts and future directions. *Med. Res. Arch.*, 6(7):1-14.
- Umunna, O.E., dan A.A. Austin. 2016. An Overview of Characterization and Identification of Soft Rot Bacterium *Erwinia* in Some Vegetable Crops. *Greener Journal of Biological Science* 6(3):46-55.



- Valdés, A., C. Ibáñez, C. Simó, V. García-Cañas. 2013. Recent transcriptomics advances and emerging applications in food science. *Trends in Analytical Chemistry* 52 : 142–154.
- van der Merwe, J. J., T. A. Coutinho, L. Korsten, dan J. E. van der Waals. 2010. *Pectobacterium carotovorum* subsp. *brasiliensis* causing blackleg on potatoes in South Africa. *European Journal of Plant Pathology*, 126(2), 175–185.
- van der Wolf, J. M., de Haan, E. G., Kastelein, P., Krijger, M., de Haas, B. H., Velvis, H., Mendes, O., Kooman-Gersmann, M., & van der Zouwen, P. S. (2017). Virulence of *Pectobacterium carotovorum* subsp. *brasiliense* on potato compared with that of other *Pectobacterium* and *Dickeya* species under climatic conditions prevailing in the Netherlands. *Plant Pathology*, 66, 571–583.
- Visavadia BG, Honeysett J, Danford MH (2008) Manuka honey dressing: an effective treatment for chronic wound infections. *British Journal of Oral and Maxillofacial Surgery* 46:55–56.
- Vorholt, J.A. 2012. Microbial Life in the Phyllosphere. *Nature Reviews Microbiology* 10(12):828-840.
- Wang, R., M. Starkey, R. Hazan, dan L.G. Rahme. 2012. Honey's ability to counter bacterial infections arises from both bactericidal compounds and QS inhibition. *Microbiology* 3(144)1-8.
- Werra, P.D., F. Bussereau, A. Keiser, D. Ziegler, 2015. First report of potato blackleg caused by *Pectobacterium carotovorum* subsp. *brasiliense* in Switzerland. *Plant.Dis.*, 99:551.
- Wilfinger, W. W., K. Mackey, dan P.Chomczynski. Effect of pH and ionic strength on the spectrophotometric assessment of nucleic acid purity. *Biotechniques* 22(3):474-48.
- Wilson, M.L., dan R.M. Macnab. 1990. Co-overproduction of the MotA protein of *Escherichia coli* and estimation of its wild-type level. *J Bacterio.*1170: 588-597.
- Wu, J.W., dan X.L. Chen. 2011. Extracellular metalloproteases from bacteria. *Applied Microbiology and Biotechnology*. 92(2):253-262.
- Yap, M.N., C.H. Yang, J.D. Barak, C.E. Jahn, dan A.O. Charkowski. 2005. The *Erwinia chrysanthemi* Type III secretion system is required for multicellular behavior. *Journal of Bacteriology* 187(2):639-648.
- Yadav, S., S. Singla-Pareek, M. Ray *et al.* 2005. Methylglyoxal levels in plants under salinity stress are dependent on glyoxalase I and glutathione. *Biochem Biophys Res Commun*, 337(1):61–67.
- Zhai, Y. F., W. Heijne, dan M. H. Saier. 2003. Molecular modeling of the bacterial outer membrane receptor energizer, ExbBD/TonB, based on homology with the flagellar motor, MotAB. *Biochim. Biophys. Acta - Biomembr.*, 1614(2):201–210.
- Zhang, D., Y. Zhou, D. Zhao, J. Zhu, Z. Yang, M. Zhu, 2017. Complete genome sequence and pathogenic genes analysis of *Pectobacterium atroseptica* JG10-08. *Genes.Genom.*, 39(9):945-955.