

DAFTAR PUSTAKA

- Abdellatef, E., Kamal, N. M., & Tsujimoto, H., 2021, "Tuning Beforehand: A Foresight on RNA Interference (RNAi) and In Vitro-Derived dsRNAs to Enhance Crop Resilience to Biotic and Abiotic Stresses", *International Journal of Molecular Sciences*, 22(14), 7687.
- Abreha, K. B., Alexandersson, E., Vossen, J. H., Anderson, P., & Andreasson, E., 2015, "Inoculation of Transgenic Resistant Potato by *Phytophthora infestans* Affects Host Plant Choice of a Generalist Moth", *PLOS ONE*, 10(6).
- Alberts, B., 2015, *Molecular biology of the cell* (Sixth edition), Garland Science, Taylor and Francis Group.
- Ali, S. S., Shao, J., Lary, D. J., Kronmiller, B. A., Shen, D., Strem, M. D., Amoako-Attah, I., Akrofi, A. Y., Begoude, B. A. D., ten Hoopen, G. M., Coulibaly, K., Kebe, B. I., Melnick, R. L., Gultinan, M. J., Tyler, B. M., Meinhardt, L. W., & Bailey, B. A., 2017, "Phytophthora megakarya and Phytophthora palmivora, Closely Related Causal Agents of Cacao Black Pod Rot, Underwent Increases in Genome Sizes and Gene Numbers by Different Mechanisms", *Genome Biology and Evolution*, 9(3), 536–557.
- Appel, Adler, & Habermeyer., 2001, "A Method for the Artificial Inoculation of Potato Tubers with *Phytophthora infestans* and Polymerase Chain Reaction Assay of Latently Infected Sprouts and Stems", *Journal of Phytopathology*, 149(5), 287–292.
- Awuah, R. T., & Frimpong, M., 2002, "Cocoa-based media for culturing *Phytophthora palmivora* (Butl.) Butl., causal agent of black pod disease of cocoa", 155(6): 143–147.
- Aylor, D. E., 2003, "Spread of Plant Disease on a Continental Scale: Role of Aerial Dispersal of Pathogens", *Ecology*, 84(8), 1989–1997.
- Baldrich, P., Rutter, B. D., Karimi, H. Z., Podicheti, R., Meyers, B. C., & Innes, R. W., 2019, "Plant Extracellular Vesicles Contain Diverse Small RNA Species and Are Enriched in 10- to 17-Nucleotide "Tiny" RNAs", *The Plant Cell*, 31(2), 315–324.
- Barchenger, D. W., Lamour, K. H., & Bosland, P. W. (2018). Challenges and Strategies for Breeding Resistance in *Capsicum annuum* to the Multifarious Pathogen, *Phytophthora capsici*. *Frontiers in Plant Science*, 9, 628. <https://doi.org/10.3389/fpls.2018.00628>
- Biedenkopf, D., Will, T., Knauer, T., Jelonek, L., Furch, A. C. U., Busche, T., & Koch, A. (2020). Systemic spreading of exogenous applied RNA biopesticides in the crop plant *Hordeum vulgare*. *ExRNA*, 2(1), 12.
- Cai Q, Qiao L, Wang M, He B, Lin FM, Palmquist J, Huang SD, Jin H. Plants send small RNAs in extracellular vesicles to fungal pathogen to silence virulence genes. *Science*. 2018 Jun 8;360(6393):1126-1129. doi: 10.1126/science.aar4142. Epub 2018 May 17. PMID: 29773668; PMCID: PMC6442475.

- Carbonell A, Martínez de Alba AE, Flores R, Gago S. Double-stranded RNA interferes in a sequence-specific manner with the infection of representative members of the two viroid families. *Virology*. 2008 Feb 5;371(1):44-53. doi: 10.1016/j.virol.2007.09.031. Epub 2007 Oct 29. PMID: 18028975.
- Castro, A., Bernis, C., Vigneron, S., Labbé, J.-C., & Lorca, T., 2005, “The anaphase-promoting complex: A key factor in the regulation of cell cycle”, *Oncogene*, 24(3), 314–325.
- Choi YJ, Beakes G, Glockling S, Kruse J, Nam B, Nigrelli L, Ploch S, Shin HD, Shivas RG, Telle S, Voglmayr H, Thines M. Towards a universal barcode of oomycetes--a comparison of the cox1 and cox2 loci. *Mol Ecol Resour*. 2015 Nov;15(6):1275-88. doi: 10.1111/1755-0998.12398. Epub 2015 Mar 24. PMID: 25728598; PMCID: PMC5736100.
- Dang, T. T. V., Colin, J., & Janbon, G. (2022). Alternative Transcription Start Site Usage and Functional Implications in Pathogenic Fungi. *Journal of Fungi*, 8(10), 1044. <https://doi.org/10.3390/jof8101044>
- Dang, T. T. V., Colin, J., & Janbon, G. (2022). Alternative Transcription Start Site Usage and Functional Implications in Pathogenic Fungi. *Journal of Fungi*, 8(10), 1044. <https://doi.org/10.3390/jof8101044>
- Das, P. R., & Sherif, S. M., 2020, “Application of Exogenous dsRNAs-induced RNAi in Agriculture: Challenges and Triumphs”, *Frontiers in Plant Science*, 11, 946.
- de Felippes, F. F. 2019. “Gene Regulation Mediated by microRNA-Triggered Secondary Small RNAs in Plants”, *Plants*, 8(5), 112. <https://doi.org/10.3390/plants8050112>
- Dodds, P. N., Rafiqi, M., Gan, P. H. P., Hardham, A. R., Jones, D. A., & Ellis, J. G., 2009, “Effectors of biotrophic fungi and oomycetes: Pathogenicity factors and triggers of host resistance”, *New Phytologist*, 183(4), 993–1000.
- Doehlemann, G., Ökmen, B., Zhu, W., & Sharon, A., 2017, “Plant Pathogenic Fungi”, *Microbiology Spectrum*, Edited by J. Heitman and B.J. Howlett, 5(1).
- Dubrovina, A. S., & Kiselev, K. V. (2019). Exogenous RNAs for Gene Regulation and Plant Resistance. *International Journal of Molecular Sciences*, 20(9), 2282. <https://doi.org/10.3390/ijms20092282>
- Dunker, F., Trutzenberg, A., Rothenpieler, J. S., Kuhn, S., Pröls, R., Schreiber, T., Tissier, A., Kemen, A., Kemen, E., Hückelhoven, R., & Weiberg, A. (2020). Oomycete small RNAs bind to the plant RNA-induced silencing complex for virulence. *ELife*, 9, e56096. <https://doi.org/10.7554/eLife.56096>
- Evangelisti, E., Gogleva, A., Hainaux, T., Doumane, M., Tulin, F., Quan, C., Yunusov, T., Floch, K., & Schornack, S., 2017, “Time-resolved dual transcriptomics reveal early induced *Nicotiana benthamiana* root genes and conserved infection-promoting *Phytophthora palmivora* effectors”, *BMC Biology*, 15(1), 39.
- Feng, B.-Z., Zhu, X.-P., Fu, L., Lv, R.-F., Storey, D., Tooley, P., & Zhang, X.-G. (2014). Characterization of necrosis-inducing NLP proteins in *Phytophthora*

capsici. *BMC Plant Biology*, 14(1), 126. <https://doi.org/10.1186/1471-2229-14-126>

- Fry, W. E., 1982, *Principles of Plant Disease Management*, New York: Academic Press.
- Gao, R.-F., Wang, J.-Y., Liu, K.-W., Yoshida, K., Hsiao, Y.-Y., Shi, Y.-X., Tsai, K.-C., Chen, Y.-Y., Mitsuda, N., Liang, C.-K., Wang, Z.-W., Wang, Y., Zhang, D.-Y., Huang, L., Zhao, X., Zhong, W.-Y., Cheng, Y.-H., Jiang, Z.-D., Li, M.-H., ... Zhang, G.-M., 2021, "Comparative analysis of *Phytophthora* genomes reveals oomycete pathogenesis in crops", *Heliyon*, 7(2).
- Gebremichael, D. E., Haile, Z. M., Negrini, F., Sabbadini, S., Capriotti, L., Mezzetti, B., & Baraldi, E., 2021, "RNA Interference Strategies for Future Management of Plant Pathogenic Fungi: Prospects and Challenges", *Plants*, 10(4), 650.
- Hartwell, L. H., Culotti, J., & Reid, B., 1970, "Genetic control of the cell-division cycle in yeast. I. Detection of mutants", *Proceedings of the National Academy of Sciences of the United States of America*, 66(2), 352–359.
- Hou, Y., Zhai, Y., Feng, L., Karimi, H. Z., Rutter, B. D., Zeng, L., Choi, D. S., Zhang, B., Gu, W., Chen, X., Ye, W., Innes, R. W., Zhai, J., & Ma, W., 2019, "A *Phytophthora* Effector Suppresses Trans-Kingdom RNAi to Promote Disease Susceptibility", *Cell Host & Microbe*, 25(1), 153–165.
- Hudzik, C., Hou, Y., Ma, W. & Axtell, M. J., 2020, "Exchange of Small Regulatory RNAs between Plants and Their Pests", *Plant Physiology*, 182(1): 51–62.
- Ivanov, A. A., Ukladov, E. O., & Golubeva, T. S., 2021, "*Phytophthora infestans*: An Overview of Methods and Attempts to Combat Late Blight", *Journal of Fungi*, 7(12), 1071.
- Jahan, S. N., Åsman, A. K. M., Corcoran, P., Fogelqvist, J., Vetukuri, R. R., & Dixelius, C., 2015, "Plant-mediated gene silencing restricts growth of the potato late blight pathogen *Phytophthora infestans*", *Journal of Experimental Botany*, 66(9): 2785–2794.
- Jiang, R. H. Y., Tripathy, S., Govers, F., & Tyler, B. M., 2008, "RXLR effector reservoir in two *Phytophthora* species is dominated by a single rapidly evolving superfamily with more than 700 members", *Proceedings of the National Academy of Sciences*, 105(12), 4874–4879.
- Jones, J. D. G., & Dangl, J. L., 2006, "The plant immune system", *Nature*, 444(7117), 323–329.
- Judelson, H. S., & Blanco, F. A., 2005, "The spores of *Phytophthora*: Weapons of the plant destroyer", *Nature Reviews Microbiology*, 3(1), 47–58.
- Kalyandurg, P. B., Sundararajan, P., Dubey, M., Ghadamgahi, F., Zahid, M. A., Whisson, S. C., & Vetukuri, R. R., 2021, "Spray-Induced Gene Silencing as a Potential Tool to Control Potato Late Blight Disease", *Phytopathology*, 111(12), 2168–2175.
- Kamoun, S., 2003, "Molecular Genetics of Pathogenic Oomycetes", *Eukaryotic Cell*, 2(2): 191–99.
- Kamoun, S., Furzer, O., Jones, J. D. G., Judelson, H. S., Ali, G. S., Dalio, R. J. D.,

- Roy, S. G., Schena, L., Zambounis, A., Panabières, F., Cahill, D., Ruocco, M., Figueiredo, A., Chen, X.-R., Hulvey, J., Stam, R., Lamour, K., Gijzen, M., Tyler, B. M., ... Govers, F., 2015, "The Top 10 oomycete pathogens in molecular plant pathology: Top 10 oomycete plant pathogens", *Molecular Plant Pathology*, 16(4), 413–434.
- Koch, A., Biedenkopf, D., Furch, A., Weber, L., Rossbach, O., Abdellatef, E., Linicus, L., Johannsmeier, J., Jelonek, L., Goesmann, A., Cardoza, V., McMillan, J., Mentzel, T., & Kogel, K.-H. (2016). An RNAi-Based Control of *Fusarium graminearum* Infections Through Spraying of Long dsRNAs Involves a Plant Passage and Is Controlled by the Fungal Silencing Machinery. *PLOS Pathogens*, 12(10), e1005901. <https://doi.org/10.1371/journal.ppat.1005901>
- Kuo, Y.-W., Falk, B. W., 1980, "RNA Interference Approaches for Plant Disease Control", *BioTechniques*, 69 (6): 469–477.
- Lang-Yona, N., Pickersgill, D. A., Maurus, I., Teschner, D., Wehking, J., Thines, E., Pöschl, U., Després, V. R., & Fröhlich-Nowoisky, J., 2018, "Species Richness, rRNA Gene Abundance, and Seasonal Dynamics of Airborne Plant-Pathogenic Oomycetes", *Frontiers in Microbiology*, 9, 2673.
- Lau, S. E., Mazumdar, P., Hee, T. W., Song, A. L. A., Othman, R. Y., & Harikrishna, J. A. (2014). Crude extracts of bacterially-expressed dsRNA protect orchid plants against *Cymbidium mosaic virus* during transplantation from in vitro culture. *The Journal of Horticultural Science and Biotechnology*, 89(5), 569–576. <https://doi.org/10.1080/14620316.2014.11513122>
- Le Fevre, R., O'Boyle, B., Moscou, M. J., & Schornack, S., 2016, "Colonization of Barley by the Broad-Host Hemibiotrophic Pathogen *Phytophthora palmivora* Uncovers a Leaf Development-Dependent Involvement of Mlo", *Molecular Plant-Microbe Interactions*®, 29(5), 385–395.
- Masanto, Wibowo, A., Subandiyah, S., & Kageyama, K., 2019, "Morphometric Variation of *Phytophthora palmivora* Causing Black Pod Rot Disease on Cocoa (*Theobroma cacao* L.) in Indonesia", *Plant Pathology Journal*, 18(1), 1–11.
- Mohamed Azni, I. N. A., Sundram, S., Ramachandran, V., & Abu Seman, I., 2017, "An *in vitro* investigation of Malaysian *Phytophthora palmivora* isolates and pathogenicity study on oil palm", *Journal of Phytopathology*, 165(11–12), 800–812.
- Morris, P. F., & Ward, E. W. B., 1992, "Chemoattraction of zoospores of the soybean pathogen, *Phytophthora sojae*, by isoflavones", *Physiological and Molecular Plant Pathology*, 40(1), 17–22.
- Peres da Silva, R., Puccia, R., Rodrigues, M. L., Oliveira, D. L., Joffe, L. S., César, G. V., Nimrichter, L., Goldenberg, S., & Alves, L. R. (2015). Extracellular vesicle-mediated export of fungal RNA. *Scientific Reports*, 5(1), 7763. <https://doi.org/10.1038/srep07763>
- Perrine-Walker, F., 2020, "*Phytophthora palmivora*–Cocoa Interaction", *Journal of Fungi*, 6(3), 167.
- Pettongkhao, S., Navet, N., Schornack, S., Tian, M., & Churngchow, N., 2020, "A

- secreted protein of 15 kDa plays an important role *Phytophthora palmivora* development and pathogenicity”, *natureresearch*, 10:2319.
- Purwanti, H., 2002, “Penyakit Hawar Daun (*Phytophthora infestans* (Mont.de Bary) pada Kentang dan Tomat: Identifikasi Permasalahan di Indonesia”, *Buletin AgroBio*, 5(2): 67–72.
- Reeslev, M., & Kjoller, A., 1995, “Comparison of biomass dry weights and radial growth rates of fungal colonies on media solidified with different gelling compounds”, *Applied and environmental microbiology*, 61(12), 4236–4239.
- Rubiyo, Purwantara, A., Sri-Sukanto, Sudarsono, 2008, “Isolation of Indigenous *Phytophthora palmivora* from Indonesia, Their Morphological and Pathogenecity Characterization”, *Pelita Perkebunan*, 24(1): 37–49.
- Sarkar, A., & Roy-Barman, S., 2021, “Spray-Induced Silencing of Pathogenicity Gene MoDES1 via Exogenous Double-Stranded RNA Can Confer Partial Resistance Against Fungal Blast in Rice”, *Frontiers in Plant Science*, 12, 733129.
- Shelley, B. A., Luster, D. G., Garrett, W. M., McMahon, M. B., & Widmer, T. L., 2018, “Effects of temperature on germination of sporangia, infection and protein secretion by *Phytophthora kernoviae*”, *Plant Pathology*, 67(3), 719–728.
- Song, X.-S., Gu, K.-X., Duan, X.-X., Xiao, X.-M., Hou, Y.-P., Duan, Y.-B., Wang, J.-X., & Zhou, M.-G. (2018). A myosin5 dsRNA that reduces the fungicide resistance and pathogenicity of *Fusarium asiaticum*. *Pesticide Biochemistry and Physiology*, 150, 1–9. <https://doi.org/10.1016/j.pestbp.2018.07.004>
- Sun, W. X., Jia, Y. J., O’Neill, N. R., Feng, B. Z. H., & Zhang, X. G. (2008). Genetic diversity in *Phytophthora capsici* from eastern China. *Canadian Journal of Plant Pathology*, 30(3), 414–424. <https://doi.org/10.1080/07060660809507539>
- Sun, W. X., Jia, Y. J., O’Neill, N. R., Feng, B. Z. H., & Zhang, X. G. (2008). Genetic diversity in *Phytophthora capsici* from eastern China. *Canadian Journal of Plant Pathology*, 30(3), 414–424. <https://doi.org/10.1080/07060660809507539>
- Tooley, P.W & Therrien, C. D., 1987, “Cytophotometric Determination of the Nuclear DNA Content Mexican and 18 Non-Mexican Isolates of *Phytophthora infestans*”, *Experimental Mycology*, 11: 19–26.
- Vanegtern, B., Rogers, M., & Nelson, S. (2015). *Black Pod Rot of Cacao Caused by Phytophthora palmivora*.
- Vanegtern, B., Rogers, M., & Nelson, S. (2015). *Black Pod Rot of Cacao Caused by Phytophthora palmivora*.
- Voinnet O. Origin, biogenesis, and activity of plant microRNAs. *Cell*. 2009 Feb 20;136(4):669-87. doi: 10.1016/j.cell.2009.01.046. PMID: 19239888.
- Vu, A. L., Leesutthiphonchai, W., Ah-Fong, A. M. V., & Judelson, H. S. (2019). Defining Transgene Insertion Sites and Off-Target Effects of Homology-Based Gene Silencing Informs the Application of Functional Genomics Tools

- in *Phytophthora infestans*. *Molecular Plant-Microbe Interactions*®, 32(8), 915–927. <https://doi.org/10.1094/MPMI-09-18-0265-TA>
- Wahyuno, D., Manohara, D. and Susilowati, D.N., 2016, “Variasi Morfologi dan Virulensi *Phytophthora capsici* Asal Lada”, *Buletin Plasma Nutfah*, 13(2): hal. 70.
- Wang M, Weiberg A, Lin FM, Thomma BP, Huang HD, Jin H. Bidirectional cross-kingdom RNAi and fungal uptake of external RNAs confer plant protection. *Nat Plants*. 2016 Sep 19;2:16151. doi: 10.1038/nplants.2016.151. PMID: 27643635; PMCID: PMC5040644.
- Zhang R, Marshall D, Bryan GJ, Hornyik C. Identification and characterization of miRNA transcriptome in potato by high-throughput sequencing. *PLoS One*. 2013;8(2):e57233. doi: 10.1371/journal.pone.0057233. Epub 2013 Feb 21. PMID: 23437348; PMCID: PMC3578796.