UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Abbas, M. H., H. H. Anum., M. A. Ahsen., M. N. Saleem., S. Mohsin., S. Hussain., M. Umar., and F. Tafheem. 2019. Assesment of the potential for disease development of *Colletotrichum spp.* In different species of citrus fruits. Nature and Science, 17(1) : 88 – 95. https://doi.org/10.7537/marsnsj170119.12

Achor, D. S., C. Ribeiro., J. Li., and N. Wang. 2026. Microscopic atlas of citrus huanglongbing unravels its sequential disease development mechanism. Phytopathology. https://doi.org/10.1094/PHYTO-01-26-0019-R

Agrios, G. N. 2005. Plant Pathology. Amsterdam, The Netherlands: Elsevier Academic Press.

Agusnur, A. 2025. Peran mikroba tanah dalam meningkatkan ketahanan tanaman sayuran. Jurnal Budidaya Pertanian, 1(1) : 22 – 29. https://ojs.pustakabangsaindonesia.com/index.php/jbp/article/view/23/18.

Alayya, N. P., dan B. Prasetya. 2022. Kepadatan spora dan persen koloni mikoriza vesikula arbuskula (MVA) pada beberapa tanaman pangan di lahan pertanian kecamatan jabung malang. Jurnal Tanah dan Sumberdaya Lahan, 9(2) : 267 – 276. https://doi.org/10.21776/ub.jtsl.2022.009.2.7.

Apacionado, B. V., and T. Ahamed. 2023. Sooty mold detection on citrus tree canopy using deep learning. Sensors, 23(20) : 1 – 20. https://doi.org/10.3390/s23208519.

Apindiati, R. K., dan M. Rizal. 2018. Identifikasi *Xanthomonas citri* penyebab kanker pada tanaman jeruk pamelo. Seminar Nasional Penerapan Ilmu Pengetahuan dan Teknologi, 127 – 131. http://pipt.untan.ac.id/index.php/seminarpipt/PIPT2018/paper/view/473.

Ariani, H. 2000. Pengenalan *Bacillus* spp. Oseana, 25(1) : 31 – 41.

Ariesdianto, R. H., Z. E. Fitri., A. Madjid., dan A. M. N. Imron. 2021. Identifikasi penyakit daun jeruk siam menggunakan *K-Nearest Neighbor*. Jurnal Ilmu Komputer dan Informatika, 1(2) : 133 – 140. https://doi.org/10.54082/jiki.14.

Asroh, A. dan N. Novriani. 2019. Pemanfaatan keong mas sebagai pupuk organik cair yang dikombinasikan dengan pupuk nitrogen dalam mendukung pertumbuhan dan produksi tanaman selada (*Lactuca sativa* L.). Jurnal Penelitian Ilmu-ilmu Pertanian, 14(2) : 83 – 89. https://jurnal.um-palembang.ac.id/klorofil/article/view/2365.

Bastianel, M., R. Martinelli., F. T. devite., M. Cristofani-Yaly., R. V. Ferreira., E. S. Stuchi., and F. A. Azevedo. 2023. Reaction of mandarins to the alternaria brown spot and huanglongbing: identification of potential varieties for these diseases to be managed in the field. Horticulture, 9(6) : 1 – 12. https://doi.org/10.3390/horticulturae9060641.

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Bernal, M. A. E., M. P. M. Navarro., J. L. A. Gomez., C. Saldana., M. A. R. Lopez., A. A. Reyes., M. E. Garcia., J. R P. Aguilar., V. P. Moreno., J. A.R. Morales., E. A. Hidalgo., J. N. Ramirez., J. L. H. Flores., and J. C. Guillen. 2023. Bioncontrol activity of *Bacillus altudinis* ch05 and *Bacillus ropicus* ch13 isolated from *Capsicum annuum* L. seeds against fungal strains. Microorganism, 11(11) : 2677. https://doi.org/10.3390/microorganisms12102077.

Berruti, A., E. Lumini., R. Balestrini., and V. Bianciotto. 2016. Arbuscula mycorrhizal fungi as natural biofertilizers: let's benefit from past successes. Frontiers in Microbiology, 6 : 1 – 13. https://doi.org/10.3389/fmicb.2015.01559

Bi, Q., P. Liu., J. Wu., F. Lu., X. Han., W. Wang., and J. Zhao. 2023. Transcriptomic and metabolic analysis of the mechanism by which *Bacillus* inhibits *alternaria alternata* to control pear black spot. Biological Control, 187 : 1 – 14. https://doi.org/10.1016/j.biocontrol.2023.105394.

Bonfante, P., and A. Genre. 2010. Mechanisms underlying beneficial plant-fungus interactions in mycorrhizal symbiosis. Nature communications, 1(1) : 1 – 11. https://doi.org/10.1038/ncomms1046.

BPS. 2023. Produksi Buah-Buahan di Indonesia, 2019-2022. Badan Pusat Statistik.

BPS. 2025. Statistik Hortikultura. Badan Pusat Statistik. https://www.bps.go.id/id/publication/2025/06/10/aab67e4d36ea6d7bed30d79f/statistik-hortikultura-2024. Diakses 8 Juli 2026.

Brooks, F., F. Rindi., Y. Suto., S. Ohtani., and M. Green. 2015. The Trentepohliales (Ulvophyceae, Chlorophyta): an unusual algal order and it's novel plant pathogen, *Cephaleuros*. The American Phytopathological Society, 99(6) : 740 – 753. https://doi.org/10.1094/PDIS-01-15-0029-FE.

Brundrett, M., N. B. Bougher., T. Grove, and N. Malajczuk. 1996. Working with mychorrhizas in forestry and agriculture. Canberra, Australia.

Cao, M. A., P. Wang., A. Hashem., S. Wirth., E. F. A. Allah., and Q. S. Wu. 2021. Field inoculation of arbuscular mycorrhizal fungi improves fruit quality and root physiological activity of citrus. Agriculture, 11(12) : 1 – 9. https://doi.org/10.3390/agriculture11121297.

Chen, K., Z. Tian., H. He., C. Long.,and F. Jiang. 2020. *Bacillus* species as potential biocontrol agents against citrus diseases. Biological Control, 151 : 1 – 9. https://doi.org/10.1016/j.biocontrol.2020.104419.

Chomnunti, P., S. Hongsanan., B. A. Hudson., Q. Tian., D. Persoh., M. K. Dhami., A. S. Alias., J. Xu., X. Liu., M. Stadler., and K. D. Hyde. 2014. The sooty moulds. Fungal Diversity, 66(1) : 1 – 36. https://doi.org/10.1007/s13225-014-0278-5.

Dala-Paula. B. M., A. PLotto., J. Bai., J. A. Manthey., E. A. Baldwin., R. S. Ferrarezi., and M. B. A. Gloria. 2019. Effect of huanglongbing or

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

greening disease on orange juice quality, a review. Frointiers in Plant Science, 9 : 19. https://doi.org/10.3389/fpls.2018.01976.

Direktorat Jenderal Hortikultura. 2020. Laporan Kinerja Direktorat Jenderal Hortikultura Tahun Anggaran 2020. Kementrian Pertanian Republik Indonesia.

Dono, D., Y. Hidayat., Sudarjat., T. Sunoarto., R. Meliansyah., dan N. S. Widayani. 2024. Pemangkasan dan pemupukan tanaman buah jeruk siam dan buah naga sebagai fungsi perawatan tanaman dan pengendalian hama di desa pajagan, kabupaten sumedang, jawa barat Jurnal Unpad Agrimasta, 2(1) : 18 – 23. https://doi.org/10.24198/agrimasta.v2i1.59267.

Dwiastuti, M. E. 2022. Eksplorasi jamur rizosfer di tiga sentra jeruk terapapar penyakit busuk batang (*Lasiodiplodia theobromae* path) serta potensi antagonismenya. Prosiding Seminar Nasional Perhimpunan Hortikultura Indonesia, 1(1) : 251 – 259. https://doi.org/10.1088/1755-1315/752/1/012030.

El-wahab, A. F., A. G. S. Shehata., and M. Kamhawy. 2013. First record of algal fruit and leaf spots of guava caused by *Cephaleuros virescens* in Egypt. Egyptian Journal Of Phytopathology, 41(1) : 217 – 218. https://doi.org/10.21608/ejp.2013.102007.

Espinosa, B. M. A., M. P. M. Navarro., J. L. A. Gomez., C. Saldana., M. A. R. Lopez., A. A. Reyes., M. E. Garcia., J. R P. Aguilar., V. P. Moreno., J. A. R. Morales., E. A. Hidalgo., J. N. Ramirez., J. L. H. Flores., and J. C. Guilen. 2024. Biocontrol activity of *Bacillus altitudinis* ch05 and *Bacillus tropicus* ch13 isolated from *capsicum annum* L. seeds against fungal strains. Mircoorganisms, 12(10) : 1 – 21. https://doi.org/10.3390/microorganisms12101943.

Fagodiya, R. K., A. Trivedi., and B. L. Fagodia. 2022. Impact of weather parameters on alternaria leaf spot of soybean incited by *alternaria alternata.* Scientific Reports, 12(1): 1 – 10. https://doi.org/10.1038/s41598-022-26491-5.

Felipini, R. B., R. A. S. Brito., F. A. Azevedo., and N. S. M, Junior. 2023. *alternaria alternata* f. Sp. *citri* tangerine pathotype induces reactive oxygen species accumulation in susceptible citrus leaves. Physiological and Molecular Plant Pathology, 126: 1 – 8. https://doi.org/10.1016/j.pmpp.2023.102040.

Fiani, A., Yuliah., dan Y. Hadiyan. 2017. Respon populasi asal cendana (*Santalum album* L) terhadap serangan embun jelaga. Proceeding Biology Education Conference, 14(1) : 106 – 108. https://jurnal.uns.ac.id/prosbi/article/view/18718/pdf.

Fira, D. I. Dimkic., T. Beric., J. Lozo., and S. Stankovic. 2018. Biological control of plant pathogens by *Bacillus* species. Journal of Biotechnology, 285 : 44 – 55. https://doi.org/10.1016/j.jbiotec.2018.07.044.

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Garmendia, A., M. Ferriol., R. Beltran., F. Grecia-Breijo., M. D. Raigon., M. D. C. Parra., and H. Merle. 2025. Plant protection products to control alternaria brown spot caused by *alternaria alternata* in citrus: a systematic review. Agronomy, 15(6): 1 – 22. https://doi.org/10.3390/agronomy15061343.

Ghosh, D., S. KB. K. Savita., P. Kumar., A. K. Sharma., A. Ozcan., A. Kokane., and S. Santra. 2022. Huanglongbing pandemic: current challenges and emerging management strategies. Plant, 12(1): 1 – 57. https://doi.org/10.3390/plants12010160.

Giassi, V., C. Kiritani., and K. C. Kupper. 2016. Bacteria as growth-promoting agents for citrus rootstocks. Microbiological research, 190: 46 – 54. https://doi.org/10.1016/j.micres.2015.12.006.

Güler, M. 2026. Effects of the IAA-producing Endophytic *Bacillus* spp. On the growth of *hordeum vulgare* L. Microorganisms, 14 (5): 1 – 15. https://doi.org/10.3390/microorganisms14051069.

Gurumurthy, H. (2017). Evaluation of liquid formulations of beneficial microorganisms in the cultivation of green house grown leafy vegetables. (Doctoral dissertation, University of Agricultural Sciences, GKVK), 1 – 201. https://krishikosh.egranth.ac.in/items/5d38e7cb-3c90-466b-9f96-6675f64bc87c.

Hanik, N. R., T. Wihartati., A. Rosyid., dan R. D. Eskundari. 2024. Development of pests and diseases booklet crystal guacva (*Psidium guajava* L.) based on line from identification results in helena guava garden candi village, jatirejo, karanganyar as a guide to crystal guava cultivation. Jurnal Biologi Tropis, 24(2) : 119 – 127. https://doi.org/10.29303/jbt.v24i2.6709.

Hartati, S., L. T. Puspasari., R. Meliansyah., dan Sudrajat. 2024. Sosialisasi penyakit tanaman jeruk dan pengendaliannya di desa pasigaran, kecamatan tanjungsari, kabupaten sumedang. Jurnal Universitas Padjajaran Agrimasta, 2(1) : 8 – 17. https://doi.org/10.24198/agrimasta.v2i1.59604.

Hazra, F., R. Rosita., dan R. T. F. Br. Siregar. 2025. Aplikasi fungi mikoriza arbuskula (FMA) asal rizosfer tanaman hias dalam meningkatkan pertumbuhan tanaman sorgum (*Sorghum bicolor*). Jurnal Ilmu Tanah dan Lingkungan, 27(2) : 95 – 101. https://doi.org/10.29244/jitl.27.2.95-101.

Huang, T. P., D. D. S. Tzeng., A. C. L. Wong., C. H. Chen., K. M.Lu., Y. H. Lee., W. D. Huang., B. F. Hwang., and K. C. Tzeng. 2012. Dna polymorphisms and biocontrol of *bacillus* antagonistic to citrus bacterial canker with indication of the interference of phyllosphere biofilms, 7(7) : 1 – 11. https://doi.org/10.1371/journal.pone.0042124.

Huang, Y.C., C. Y. Tsai., and C. L. Wang. 2023. Host invasion type is a phylogenetically conserved characteristic of *Cephaleuros*. Plant Disease, 107(10) : 3222 – 3229. https://doi.org/10.1094/PDIS-10-22-2338-RE.

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Husna, F. D. Tuheteru., and A. Arif. 2017. Arbuscular Mychorrhizal Fungi and Planth Growth on Serentine Soils. Springer Singapore. https://doi.org/10.1007/978-981-10-4115-0_12.

Jayanti, R. M., I. Marisna., J. T. Abdullah., Suryanti., and T. Joko. 2025. Bioprospecting of plant-beneficial *Bacillus* species for growth promotion and disease suppression. Tropical Life Sciences Research, 36(2) : 1 – 21. https://doi.org/10.21315/tlsr2025.36.2.1.

Kristi, A., K. H. Mutaqin., dan Giyanto. 2022. Keragaman morfologi, fisiologi, biokimia, dan virulensi galur *Xanthomonas citri* sub sp. *citri* penyebab penyakit kanker pada jeruk. Jurnal Fitopatologi Indonesia, 18(1) : 29 – 42. https://doi.org/10.14692/jfi.18.1.29-42.

Lakani, I, J. Zakaria., Rosmini., Mutmainah, dan Jusriadi. 2025. Aplikasi *plant growth promoting rhizobacteria* akar bambu dan mikroorganisme lokal pada tanaman kedelai untuk pengendalian penyakit pustule bakteri. Jurnal Fitopatologi Indonesia, 21(1) : 19 – 27. https://doi.org/10.14692/jfi.21.1.18-27.

Liu, C. Y., X. N. Guo., X. L. Wu., F. J. Dai., and Q. S. Wu. 2022. The comprehensive effects of *Rhizophagus intraradices* and p on root system architecture and p transportation in *Citrus limon* L. Agriculture, 12(3) : 1 – 14. https://doi.org/10.3390/agriculture12030317.

Logan, N. A., and P. D. Vos. 2015. Bacillus. Bergey's Manual of Systematics of Archaea and Bacteria, 1 – 163. https://doi.org/10.1002/9781118960608.gbm00530.

Malik, D. K., R. Singhmar., V. Singh., M. Rathi., and V. Ahlawat. 2024. Chlorpyrifos degradation by *Bacillus tropicus* a plant growth promoting rhizobacteria. Biosciences Biotechnology research Asia, 21(1) : 349 – 354. https://doi.org/10.13005/bbra/3230.

Masnilah, R., W. S. Wahyuni, N. D. Suhartiningsih., A. Majid., H. S. Addy., dan A. Wafa. 2020. Insidensi dan keparahan penyakit penting tanaman padi di kabupaten jember. Jurnal Ilmu-ilmu Pertanian, 18(1) : 1 – 12. https://doi.org/10.32528/agritrop.v18i1.3103.

McCalla. K. A., I. Milosavljevic., and M. S. Hoddle. 2023. A low-toxicity baiting program precipitates collapse of Argentine ant and ant-associated hemipteran pest populations in commercial citrus. Biological Control, 177 : 1 – 17. https://doi.org/10.1016/j.biocontrol.2022.105092.

Meena, P. N., D. Raghavendra., S. Singh., N. Kumar., M. K. Khokhar., S. Chander., M. K. Lal., R. K. Tiwari., and R. R. Kumar. 2025. Integrated pest management techniques in a kinnow mandarin *(Citrus reticulata* blanco) orchard with an emphasis on yield improvement. Heliyon, 11(4) : 1 – 20. https://doi.org/10.1016/j.heliyon.2025.e42667.

Misbahudin, A., W. I. S. T. Astuti., P. W. A. Wardani., R. Sufra., dan W. A. Auriyani. 2023. Limbah Jerami padi sebagai sumber N, P, dan K organik dalam pembuatan pupuk untuk industry tanaman bayam (Amaranthus

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

sp.). Jurnal Ilmiah Teknik, 2(1) : 23 – 28. https://doi.org/10.55904/hexatech.v2i1.709.

Mony, A. Y., J. Matinahoru., dan M. Hadijah. 2024. Efektivitas tanaman jagung (*Zea mays*) dan kacang hijau (*Vigna radiata*) sebagai media pembiakan fungi mikoriza arbuskula (FMA). Jurnal Sains dan Teknologi, 1(6) : 596 – 606. https://doi.org/10.69840/marsegu/1.6.2024.596-606.

Murakami, M., F. N. Ramos., M. Durand., R. Ashton., and S. P. Batke. 2022. Quantification and variation of microclimatic variables within tree canopies-considerations for epiphyte research. Fronties in Forests and Global Change, 5 : 1 – 13. https://doi.org/10.3389/ffgc.2022.828725.

Nanjundapa,A., D. J. Bagyaraj., A. K. Saxena., M. Kumar., and H. Chakdar. 2019. Interaction between arbuscular mycorrhizal fungi and *Bacillus* spp. In soil enhancing growth of crop plants. Fungal Biology and Biotechnology, 6(23) : 1 – 10. https://doi.org/10.1186/s40694-019-0086-5.

Nisa, F. K., dan Y. S. Rahayu. 2022. Pengaruh pupuk organik cair nabati dan silika terhadap pertumbuhan tanaman kedelai yang mengalami cekaman air. LenteraBio: Berkala Ilmiah Biologi, 11(1) : 80 – 88. https://doi.org/10.26740/lenterabio.v11n1.p80-88.

Opanida, D., D. Deslita., D. J. Refani., dan D. Fakri. 2020. Keberadaan fungi mikoriza arbuskula (FMA) pada famili fabaceae dikawasan deudap pulo aceh kabupaten aceh besar. Prosiding Seminar Nasional Biotik, 8(1) : 341 – 346. https://doi.org/10.22373/pbio.v8i1.9660.

Palupi, N. P., Purwanti., dan Jati. 2021. Kontribusi jamur mikoriza terhadap pertumbuhan dan ketahanan salinitas batang bawah jeruk (*Citrus*, Sp). Balai Penelitian Tanaman Jeruk dan Buah Subtropika, Nabatia, 9(1) : 1 – 8. https://doi.org/10.21070/nabatia.v9i1.1446.

Pertiwi, E. D., M. Arsyad., dan I. M. Purniawan. 2025. Karakterisasi tanaman jeruk (*Citrus* sp.) di kecamatan taluditi kabupaten pohuwato. Jurnal Pertanian Berkelanjutan, 13(2) : 131 – 141. https://doi.org/10.30605/perbal.v13i2.6185.

Piattino, V., D. Aiello., G. Dardani., I. Martino., M. Flores., S. G.Acimovic., D. Spadaro., G. Polizzi., and V. Guarnaccia. 2024. *Lasiodiplodia iraniensis* and *Diaporthe* spp. Are associated with twig dieback and fruit stem-end rot of sweet orange *Citrus sinensi,* in florida. Horticulture, 10(4) : 1 – 27. https://doi.org/10.3390/horticulturae10040406.

Pitaloka, M. K., V. Petcharat., S. Arikit., and A. Sunpapao. 2015. *Cephaleuros virescens*, the cause of an algal leaf spot on para rubber in thailand. Australasian Plan Diseases, 10(1) : 1 – 4. https://doi.org/10.1007/s13314-015-0158-1.

Poveda, J., and F. G. Andres. 2021. *Bacillus* as a source of phytohormones for use in agriculture. Apllied Microbiology and Biotechnology, 105 : 8629 – 8645. https://doi.org/10.1007/s00253-021-11492-8.

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Poveda, J., R. A. Roeschlin., M. R. Marano., and M. A. Favaro. 2021. Microorganisms as biocontrol agents against bacterial citrus diseases. Biological Control, 158 : 1 – 10. https://doi.org/10.1016/j.biocontrol.2021.104602.

Purba, J. R. A., I. Subandar., dan AR. Usman. 2022. Analisis infeksi karat daun (*Cephaleuros vircens)* pada tanaman kelapa sawit (*Elaeis guineensis jacq*) di perkebunan jaya seujahtra afdeling iii pt. asn. Biofarm Junrla Ilmiah Pertanian, 18(2) : 96 – 101. https://doi.org/10.31941/biofarm.v18i2.2299.

Putri, E. A., E. Yuningsih., S. Subandiyah., and T. Joko. 2025. Antagonistic potential and plant growth enhancement by endophytic *Bacillus* isolated from citrus plants. Pertanika Journals Tropical Agricultural Science, 48(6) : 2153 – 2176. https://doi.org/10.47836/pjtas.48.6.24.

Ratu, S., M. Taufik., dan A. Khaeruni. 2020. Insidensi penyakit *Citrus Vein Phloem Degenerations* (CVPD) dan kepadatan populasi serangga vektor *Diaphorina citri* pada tanaman jeruk di pulau siompu kabupaten buton selatan. Jurnal Berkala Penelitian Agronomi, 8(1) : 33 – 39. https://doi.org/10.33772/bpa.v8i1.13854.

Reis, R. F., T. F. de Almeida., E. S. Stuchi., and A. de Goes. 2007. Suspectibility of citrus to *alternaria alternata,* the causal agent of the alternaria brown spot. Scientia Hoticulturae, 113(4) : 336 – 342. https://doi.org/10.1016/j.scienta.2007.05.001.

Riyanto, R, dan H. Iswarini. 2023. Studi manajemen usahatani dan dampak diperolehnya sertifikat produk prima tiga terhadap usahtani jeruk siam di desa budi mulya kecamatan air kumbang kabupaten banyuasin. Jurnal Ilmu-ilmu Agribisnis, 12(1) : 26 – 34. https://jurnal.um-palembang.ac.id/societa/article/view/6308,

Rizky, M., A. Wibisono., R. R. A. Nugroho., D. P. Syalom., J. Lulang., dan L. F. Untari. 2023. Alga parasite *Cephaleuros* di lingkungan kampus fakultas biologi universitas Gadjah mada Yogyakarta. Berkala Ilmiah Biologi, 14(3) : 1 – 9. https://doi.org/10.22146/bib.v14i3.10315.

Rosmiah, I. Paridawati., N. Marlina., S. Iskandar., Dali., F. Alfando., dan C. Ezward. 2024. Respon cabai (Capsicum annum L.) terhadap penggunaan pupuk organik cair dan pupuk hayati mikoriza. Jurnal Agro Indragiri, 9(2) : 96 – 102. https://doi.org/10.32520/jai.v9i2.3214.

Samant, A. P., O. S. Warang., M. M. Kulkarni., A. V. Bhuwad., R. T. Bhingarde., B. R. Salvi., P. M. Haldankar., and Y. R. Parulekar. Relationship between plant canopy volume, leaf area index and yield in mango (*Mangifera indica* L.) cv. Alphonso. Internasional Journal of Current Microbiology and Applied Sciences, 11 : 859 – 863. https://www.ijcmas.com/special/11/A.P.%20Samant%2C%20et%20al.pdf.

Sanchez-Martinez, J. C., Cruz-Esteban., and E. Garay-Serrano. 2023. Identification of the alga *Cephaleuros virescens s.I.* in blackberry plants

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

(*Rubus* sp.) in the state of michoacan, mexico. Acta Botanica Mexicana, 130 : 1 – 14. https://doi.org/10.21829/abm130.2023.2274.

Sanyong, S. and V. Amarakul. 2001. Gis application for plant diseases distribution on jack fruit, bael fruit and ma kiang tress in lower northern part of Thailand. Asian Conference on Remote Sensing, 1 – 4. https://acrs-aars.org/proceeding/ACRS2001/Papers/PS2-13.pdf.

Semangun, H. 2000. Penyakit-Penyakit Tanaman Hortikultura di Indonesia. Gadjah Mada University Press.

Sihaloho, N. K., K. S. Malolikosa., dan A. W. Munthe. 2023. Identifikasi sifat kimia tanah pada tanaman jeruk (*Citrus* sp.) kecamatan tiga panah kabupaten karo. Jurnal Agroteknologi Sains, 7(1) : 68 – 76. https://portaluniversitasquality.ac.id:5388/ojssystem/journals/5/articles/1034/public/1034-2931-1-PB.pdf.

Smith, S. E., and D. J. Read. 2008. Mycorrhizal Symbiosis. Academic Press.

Suamba, I. W., I. G. P. Wirawan., dan W. Adiartayasa. 2014. Isolasi dan identifikasi fungi mikoriza arbuscular (FMA) secara mikroskopis pada rhizosfer tanaman jeruk (*Citrus* sp.) di desa kerta, kecamatan payangan, kabupaten gianyar. Jurnal Agroekoteknologi Tropika, 3(4) : 201 – 208. https://garuda.kemdiktisaintek.go.id/documents/detail/1376423.

Sumardi, S. Farisi., C. N. Ekowati., dan M. S. Diana. 2019. Aktivitas dan karakterisasi enzim protease isolat *Bacillus* sp. (UJ132) secara kualitatif dan kuantitatif. Jurnal Riset Akuakultur, 14(3) : 193 – 199. https://doi.org/10.15578/jra.14.3.2019.193-199.

Susanto, A., A. E. Prasetyo., H. Priwiratama., M. Syarovi. 2020. Laju fotosintesis pada tanaman kelapa sawit terinfeksi karat daun *Cephaleuros virescent*. Jurnal Fitopatologi Indonesia, 16(1) : 21 – 29. https://doi.org/10.14692/jfi.16.1.21-29.

Tang, C., Z. Zhang., L. Yu., and Y. Li. 2023. Research progress of arbuscular mychorrhizal fungi promoting citrus growth. Horticulturae, 9(11) : 1 – 12. https://doi.org/10.3390/horticulturae9111162.

Taufik, M., A. Khaerum., T. Pakki., dan Gianto. 2010. Deteksi keberadaan *citrus vein phloem degeneration* (CVPD) dengan teknik pcr (polymerase chain reaction) di Sulawesi tenggara. Jurnal Hama Penyakit Tropika, 10(1) : 73 – 79. https://doi.org/10.23960/j.hptt.11073-79.

Timmer, L. W., T. L. Peever., Z. Solel., and K. Akimitsu. 2003. alternaria diseases of citrus-novel pathosystems. Phytopathologia mediterranea, 42(2003) : 99 – 112. https://doi.org/10.14601/Phytopathol_Mediterr-1710.

Timmer, L. W., Z. Solel., T. R. Gottwals., A. M. Ibanez., and S. E. Zitko. 1998. Environmental factors affecting production, release, and field population of conidia of Alternaria alternata, the cause of brown spot citrus. Phytopathology, 88(11) : 1218 – 1223. https://doi.org/10.1094/PHYTO.1998.88.11.1218.

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Triani, N. 2020. Isolasi DNA tanaman jeruk dengan menggunakan metode CTAB (*Cetyl Trimethyl Ammonium Bromide*). Jurnal Teknologi Terapan, Unira Malang, 3(2) : 221 – 226. https://doi.org/10.33379/gtech.v3i2.419.

Tuli, S. R., Md. F. Ali., T. B. Jamal., Md. A. S. Khan., N. Fatima., I. Ahmed., M. Khatun., and S. A. Sharmin. 2024. Characterization and molecular insights of a chromium-reducing bacterium *bacillus tropicus*. Microorganism, 12(12) : 1 – 22. https://doi.org/10.3390/microorganisms12122633.

Umar, I., A. Haris., dan M. S. Gani. 2021. Pengaruh pemberian konsentrasi pupuk organik cair (POC) terhadap pertumbuhan dan produksi tanaman kubis (*Brassica oleracea* L.). Jurnal Indonesia: Jurnal Ilmu Pertanian, 2(1) : 81 – 87. https://doi.org/10.33096/agrotekmas.v2i1.146.

Vasconcelos, C. V., F. T. Pereira., E. A. A. Duarte., T. A. S. Oliveira., N. Peixoto., and D. D. C. Carvalho. 2018. Physiological and molecular characterization of *Cephaleuros virescens* occurring in mango trees. The Plant Pathology Journal, 34(3) : 157 – 162. https://doi.org/10.5423/PPJ.OA.11.2017.0247.

Vater, J., L. T. T. Tam., J. Jahne., S. Herfort., C. Blumenscheit., A. Schneider., P. T. Luong., L. T. P. Thao., J. Blom., S. R. Klee., T. Schweder., P. Lasch., and R. Borris. 2023. Plants associated representatives of the *bacillus cereus* group are a rich source of antimicrobial compounds. Microorganisms, 11(11) : 2677. https://doi.org/10.3390/microorganisms11112677.

Waahidaturrahmah., R. R. Apriani., dan N. Sari. 2024. Daya antagonisme agensia hayati terhadap patogen blendok pada jeruk pamelo secara *in vitro*. Jurnal Ilmiah Ilmu-Ilmu Hayati, 9(3) : 276 – 289. https://doi.org/10.24002/biota.v9i3.8559.

Widyastuti, I. G. A., dan Widodo. 2021. Praktik budi daya pemicu perkembangan busuk batang jeruk di kabupaten bangli. Jurnal Fitopatologi Indonesia, 17(4) : 159 – 168. https://doi.org/10.14692/jfi.17.4.159-168

Wijaya, I. N., W. Adiartayasa., M. Sritamin., dan K. A. Yuliadhi. 2010. Dinamika populasi *Diaphorina citri* kuwayama (homoptera: psyllidae) dan deteksi CVPD dengan teknik PCR. Jurnal Entomologi Indonesia, 7(2) : 78 – 87. https://doi.org/10.5994/jei.7.2.78.

Wood, B. W., L. W. L. Tedders., and C. C. Reilly. Sooty mold fungus on pecan foliage suppresses light penetration and net photosynthesis. Hortscience, 25(5) : 851 – 853. https://journals.ashs.org/hort/hort/published/rest/pdf-watermark/v1/journals/hortsci/23/5/article-p851.pdf/watermark-pdf/.

Wu, Q. S., A. K. Srivastava., Y. N. Zou., and S. K. Malhotra. 2017. Mycorrhizas in citrus : betond soil fertility and plant nutrition. Indian Journal of Agricultural Sciences, 87(4) : 427 – 443. https://doi.org/10.56093/ijas.v87i4.69308.

Yin, X., W. Zhang., Z. Feng., G. Feng., H. Zhu., and Q. Yao. 2024. Improved observation of colonized roots reveals the regulation of arbuscule

UNIVERSITAS
GADJAH MADA
Efektivitas Aplikasi Bacillus tropicus, Rhizophagus intraradices, dan Pupuk Organik Cair terhadap Perkembangan Penyakit pada Jeruk Siam
Aglaia Intan Widianingrum, Prof. Dr. Tri Joko, S.P., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

development and senescence by drought stress in the arbuscular mycorrhizae of citrus. Horticultural Plant Journal, 10(2) : 425 – 436. https://doi.org/10.1016/j.hpj.2023.04.006.

Yulianto, A., dan K. Syuraikhanah. 2025. Review: pemanfaatan bakteri untuk bioremediasi logam berat pb, cd dan hg di lingkungan perairan. Jurnal Maiyah, 4(2) : 95 – 112. https://doi.org/10.20884/1.maiyah.2025.4.2.16400.

Zhang, Q., M. Gong., X. Xu., H. Li., and W. Deng. 2022. Roles of auxin in the growth, development, and stress tolerance of horticultural plants. Cells, 11(17) : 1 – 15. https://doi.org/10.3390/cells11172761.

Zuhran, M., G. Mudjono., dan R. D. Puspitarini. 2021. Pengaruh praktik budidaya jeruk terhadap intensitas penyakit *huanglongbing* (hlb) di kabupaten sambas, Kalimantan barat. Jurnal Hortikultura Indonesia, 12(2) : 108 – 116. https://doi.org/10.29244/jhi.12.2.108-116.