

DAFTAR PUSTAKA

- Abdellaziz, L., Chollet, M., Abderrahmani, A., Béchet, M., Yaici, L., Chataigné, G., Arias, A.A., Leclère, V., dan Jacques, P. 2018. Lipopeptide biodiversity in antifungal *Bacillus* strains isolated from Algeria. *Arch. Microbiol*, 200: 1205–1216.
- Acharya, B., Shrestha, S. M., Manandhar, H. K., dan Chaudhary, B. 2019. Screening of local, improved and hybrid rice genotypes against leaf blast disease (*Pyricularia oryzae*) at Banke district, Nepal. *Journal of Agriculture and Natural Resources*, 2(1), 36–52.
- Ahmad, A., M. Afzal, A.U.H. Ahmad, M. Tahir. 2013. Effect of foliar application of silicon on yield and quality of rice (*Oryza sativa* L.). *Cercetari Agron. Moldova* 46:155.
- Ahmed, M., F. Hassen, U. Qadeer, M.A. Aslam. 2011. Silicon application and drought tolerance mechanism of sorghum. *Afr. J. Agric. Res.* 6:594-607.
- Ai, Nio Song, dan Yunia Banyo. 2011. Konsentrasi klorofil daun sebagai indikator kekurangan air pada tanaman. *Jurnal Ilmiah Sains*, 11(2): 167-173.
- Ami, T., Visha Gupta, Akash Sharma, Pardeep Kumar, dan Vijay. 2023. Distribution of *Xanthomonas oryzae* pv. *oryzae* pathotyped in basmati rice growing areas Jammu and Kashmir, India. *Agronomy*, 1-22.
- Anderson, P. K, Cunningham A. A, Patel N. G, Morales, F. J, Epstein P.R & Daszak P. 2014. Emerging infectious diseases of plants: pathogen pollution, climate change and agrotechnological drivers. *Trends Ecol Evol.* 19(10):535–544.
- Apriyadi RA, Wahyuni WS, Supartini V. 2013. Pengendalian penyakit patik (*Cercospora nicotianae*) pada tembakau na oogst secara in-vivo dengan ekstrak daun gulma kipahit (*Tithonia diversifolia*). *Pertanian* 1(2):30-32.
- Ashtiani, F.A., J. Kadir, A. Nasehi, S.R.H. Rahaghi, H. Sajili. 2012. Effect of silicon on rice blast disease. *Pertanika J. Trop. Agric. Sci.* 35:1-12.
- BPS. 2022. Luas Panen Produksi dan Produktivitas Padi. <https://www.bps.go.id/indicator/53/-1498/1/luas-panen-produksi-dan-produktivitas-padi-menurut-provinsi.html>. Diakses pada 28 Januari 2022.
- Cao Y., Pi H., Chandransu P., Li Y., Wang Y., Zhou H., Xiong H., Helmann J.D., & Cai Y. 2018. Antagonism of two plant-growth promoting *Bacillus velezensis* isolates against *Ralstonia solanacearum* and *Fusarium oxysporum*. *Sci. Rep.* 8:1–14.
- Chen X.H., Koumoutsis A., Scholz R., Eisenreich A., Schneider K., Heinemeyer I., Morgenstern B., Voss B., Hess W.R., & Reva O. 2007 Comparative analysis of the complete genome sequence of the plant growth-promoting bacterium *Bacillus amyloliquefaciens* FZB42. *Nat. Biotechnol.* 25:1007–1014.
- Chowdhury, S.P., Uhl, J., Grosch, R., Alquéres, S., Pittroff, S., Dietel, K., Schmitt-Kopplin, P. Borriss, R., Hartmann, A. 2015. Cyclic lipopeptides of *Bacillus amyloliquefaciens* subsp. *plantarum* colonizing the Lettuce rhizosphere enhance

plant defense responses toward the bottom rot pathogen *Rhizoctonia solani*. *Mol. Plant-Microbe Interact*, 28, 984–995.

- Chukwu, S. C., M. Y. Rafii, S. I. Ramlee, S. I. Ismail, M. M. Hasan, Y.A. Oladosi, U.G. Magaji, Ibrahim Akos, dan K. K. Olalekan. 2019. Bacterial leaf blight resistance in rice : a review of conventional breeding to molecular approach. *Molecular Biology Reports*, 46:1519-1532.
- Dharmika, I. M., & Mulyani, D. S. 2018. Pemberian pupuk silika cair untuk meningkatkan pertumbuhan, hasil, dan toleransi kekeringan padi sawah. *Jurnal Agronomi Indonesia (Indonesian Journal Of Agronomy)*, 46(2), 153-160.
- Ebbole, D. J. 2007. Magnaporthe as a Model for Understanding Host-Pathogen Interactions. *Annual Review of Phytopathology*, 45(1), 437–456.
- Elfianti D. 2007. Penggunaan rhizobium dan bakteri pelarut fosfat pada tanah mineral masam untuk memperbaiki pertumbuhan bibit sengan (*Paraserianthes falcataria* (L.) Nielsen).
- Façal dan Boughalleb. 2015. Anatomical adaptations of the desert species *Stipa lagascae* against drought stress. *Biologia (Poland)*, 70(8),
- Fageria, N.K. 2007. Yield physiology of rice. *Journal of Plant Nutrition*, 30 : 843-879.
- Fageria, N.K. 2014. Mineral Nutrition of Rice. CRC Press, Danvers, USA.
- Fajarfika, R. 2021. Potensi *Trichoderma* spp. dalam pengendalian penyakit hawar pelepah (*Rhizoctonia solani*) secara in vivo. *Jurnal Agrotek Tropika*, 9(1), 1-8.
- Fan, Ben, Cong Wang, Xiofeng, Xiaolei D, Liming Wu, Huijun Wu, Xuwen G., and Rainer B. 2018. *Bacillus velezensis* FZB42 in 2018 : The Gram-Positive Model Strain for Plant Growth Promoting and Biocontrol. *Microbiol*, 16.
- Fitri, Heru W., Didik, dan Igomatus. 2020. Pengaruh aplikasi *Bacillus* sp. dan *Azotobacter* sp. Rhizobacter pemicu pertumbuhan tanaman terhadap produktivitas dan kualitas hasil jagung manis. *J. Hort. Indonesia*, 13(1) : 43-48.
- Hakim, Lukman, Efendi, & Marlina. 2022. Evaluasi potensi hasil galur padi lokal Aceh hasil mutase radiasi yang terinfeksi bakteri *Xanthomonas oryzae* pv. *oryzae* (Xoo) penyebab hawar daun bakteri. *Jurnal Media Pertanian*, 7(1):44-49.
- Hamley, I. W. 2015. Lipopeptides: from self-assembly to bioactivity. *Chem Commun*, 51: 8574–83.
- Hatmanti, Ariani. 2000. Pengenalan *Bacillus* spp. *Oseana*, 15(1): 31-41.
- Hayasaka, T., H. Fujii, K. Ishiguro. 2008. The role of silicon in preventing appressorial penetration by the rice blast fungus. *Phytopathology* 98:1038-1044.
- Hiddink, G.A., A.J. Termorshuizen, J.M. Raajimakers, dan A.H.C. van Bruggen. 2005. Effect of Mixed and Single Crops on Diseases Suppressiveness of Soils. *Phytopathology* 95: 1325–1332.
- International Rice Research Institute (IRRI). 1996. Standard Evaluation System for Rice. International Rice Testing Program PO Box 933, Manila, Philippines.

- International Rice Research Institute (IRRI). 2002. Standard Evaluation System for Rice (Philippines: International Rice Research Institute), Los Banos, Laguna, Philippines, 34 pp.
- International Rice Research Institute (IRRI). 2013. Standard Evaluation System for Rice. 5th Edition. International Rice Research Institute, Los Banos, Laguna, Philippines, 55 pp.
- International Rice Research Institute (IRRI). 2014. Standard Evaluation System for Rice (Philippines: International Rice Research Institute), Los Banos, Laguna, Philippines, 34 pp.
- Irianto, Sumarjo Gatot. 2018. Petunjuk Teknis dan Pelaporan Organisme Pengganggu Tumbuhan dan Dampak Perubahan Iklim (OPT-DPI). Kementerian Pertanian, Jakarta.
- Joko, Tri, Susanto Somowirayjo, Suryanti, dan Rahma, Anisa Aulia,. 2020. Induced disease resistance and promotion of shallot growth by *Bacillus velezensis* B-27. *Pakistan Journal of Biological Sciences*, 23(9): 1113-1121.
- Khaeruni. 2014. Perkembangan penyakit HDB pada 3 varietas padi sawah yang diinokulasi pada beberapa fase pembibitan. *Jurnal Fitopatologi*, 10(4):119-125.
- Kloepper J. W, Leong J, Teintze M, Schroth M. N. 2004. Enhanced plant growth by siderophores produced by plant growth-promoting rhizobacteria. *Nature* 286: 885–886.
- Kumar, A., Zacharia, S., Maurya, A. K., & John, V. 2019. Effect of fungicides and neem oil on the Rhizoctonia root rot of soybean (*Glycine max* L.). *International Journal of Current Microbiology and Applied Sciences*, 8(1), 368-372.
- Kurrata, Gilang, Tutik K., dan Andi N. 2021. Keparahan penyakit blas *Pyricularia oryzae* dan analisis gen virulensi menggunakan metode Sequence Characterized Amplified Region. *Jurnal Fitopatologi Indonesia*, 17(1) : 19-27.
- Lam, Van Bach, Thibault Meyer, Anthony A.A., Marc O., dan Monica H. 2021. *Bacillus* cyclic lipopeptides iturin and fengycin control rice blast caused *Pyricularia oryzae* in plotting and acid sulfate soils by direct antagonism and induced systemic resistance. *Microorganisms*, 9:1441.
- Lines-Kkelly, R. 2005. Defend the Rhizosphere and Root Against Pathogenic Microorganism. <https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/42259-/Rhizosphere.pdf>. Diakses pada 15 Maret 2023.
- Luo J, dan Zhang. 2019. *Pyricularia oryzae*. The Rice Blast Fungus and Allied Species: A Monograph of the Fungal Order Magnaporthales (under Construction). <https://magnaporthales.sebs.rutgers.edu>. Diakses pada 13 Maret 2023.
- Makarim dan E. Suhartatik. 2010. Morfologi dan Fisiologi Tanaman Padi. Balai Besar Penelitian Tanaman Padi. Sukabumi. Subang.
- Makino, Amane. 2021. Photosynthesis improvement for enhancing productivity in rice. *Soil Science and Plant Nutrition*, 67(5):513-519.

- Milati, L. Nur, Bambang Nuryanto, dan Umin S. 2021. Hubungan insidensi penyakit hawar pelepah dengan keparahan penyakit dan hasil produksi padi. *Jurnal Fitopatologi Indonesia*, 17(3): 113-120.
- Miller, T.G. dan R.K. Webster. 2001. Soil Sampling Techniques for Determining the Effect of Culture Practices on *Rhizoctonia oryzae-sativae* Inoculums in Rice Field Soil. *Plant Disease* 85: 967-972.
- Moradipour, Mojde, Roohallah Riseh, Keyvan E., Reza M., dan Evelin Loit. 2021. Evaluation of *Bacillus velezensis* for biological control of *Rhizoctonia solani* in alginate/gelatin encapsulation supplemented with nanoparticles. *Journal of Microbiology and Biotechnology*, 31(10): 1373-1382.
- Mosela, Mirela, Galdino A., Luana R., Suelen Regina, dan Leonardo S. 2022. *Bacillus velezensis* strain AG75 as a new multifunctional agent for biocontrol, phosphate solubilization and growth promotion in maize and soybean crops. *Scientific reports*, 12:15284.
- Muazzam, M. 2017. The darkest phase for family:child marriage prevention and its complexity in Indonesia. *Journal of Indonesia legal studies*, 4(2):242-258.
- Muslim, A., Permatasari, R., & Mazid, A. 2015. Ketahanan beberapa varietas padi rawa lebak terhadap penyakit hawar upih yang disebabkan oleh *Rhizoctonia solani*. *Jurnal Lahan Suboptimal*, 1(2), 163-169.
- Naz, N, Fatimah, S. Hamed, dan M. Naser. 2016. Adaptations for salinity tolerance *Sporobolus loclados* Nees from saline desert. *Flora Mmorphology, Ecology for Plant*, 223:46-55.
- Neupane, N., dan Bhusal, K. 2021. A review of blast disease of rice in Nepal. *J Plant Pathol Microbiol*, 11, 528.
- Ningrum. 2017. Antimicrobial activity of Bacillus isolation, identification, and the effect of carbon and nitrogen. *Journal of Microbiology and antimicrobial*, 8:7-15.
- Nuryani, Yusuf S, Djantika I, Hanudin, Marwoto B. 2011. Pengendalian penyakit layu fusarium pada subang gladiol dengan pengasapan dan biopestisida. *J. Hort.* 21(1):40- 50.
- Nuryanto, B. 2017. Penyakit hawar pelepah (*Rhizoctonia solani*) pada padi dan taktik pengelolaannya. *Jurnal Perlindungan Tanaman Indonesia*, 21(2), 63-71.
- Omar, M. N.A. dan Ismail. 2002. Complementation of diazotrophs and yeast as plant growth promoting agents of wheat plants. *Egyptian Journal of Agricultural Research*, 80 : 29-40.
- Pelczar, M. J., E.C.S. Chan, dan N. R. Krieg. 1976. *Microbiology*. Me Graw Hill Book Company : New York, 896 pp.
- Prasetyo, Mmukti S., Rachmi Masnilah, dan Wagiyana. 2017. Kajian intensitas penyakit bercak coklat sempit (*Cercospora oryzae* L.) di Kabupaten Jember. *Gontor Agrotech Science Jjournal*, 3(2): 59-83.
- Pratiwi, S. H. 2016. Pertumbuhan dan hasil padi (*Oryza sativa* L.) sawah pada berbagai metode tanam dengan pemberian pupuk organik. *Gontor AGROTECH Science Journal*, 2(2), 1-19.

- Puspita, Fifi, Sukemu Indra S., dan Jenny Merini. 2018. Uji beberapa konsentrasi bakteri *Bacillus* sp. endofit untuk meningkatkan pertumbuhan bibit kakao (*Theobroma cacao* L.) *Jurnal Agronomi Indonesia*, 46(3):322-327.
- Rabbee, M. F., Sarafat, Jinhee, Buyng, Sang Chul, & Kwang Hyun Baek. 2019. *Bacillus velezensis* : A Valuable Member of Bioactive Molecules within Plant Microbiomes. *Molecules*, 24(6) : 1046.
- Rao, G.B., P. Susmitha. 2017. Silicon uptake, transportation, and accumulation in rice. *J. Pharmacog. Phytochem.* 6:290-293.
- Rifa'i, Mien. 2004. Kamus Biologi. Balai Pustaka, Jakarta.
- Rohaeni, W. R., & Yuliani, D. 2019. Keragaman Morfologi Daun Padi Lokal Indonesia dan Korelasinya dengan Ketahanan Penyakit Hawar Daun Bakteri. *Jurnal Ilmu Pertanian Indonesia*, 24(3), 258-266.
- Sacala, E. 2009. Role of silicon in plant resistance to water stress. *J. Elementol.* 14:619-630.
- Salisbury, F.B. and C.W. Ross. 1992. Plant Physiology. 4rd Ed. Wadsworth Publishing Company. California.
- Salimah, N. A., Kuswinanti, T., & Nasruddin, A. 2021. Exploration and Racial Determination of the Cause of Rice Blas Disease in Maros County. *Indonesian Journal of Phytopathology*, 17(2), 41-48.
- Saragih, B. 2001. Suara dari Bogor : Membangun sistem agribisnis. USESE, Bogor.
- Siahaan, P. dan Beivy Kolondam. 2019. Uji penggunaan PGPR terhadap pertumbuhan vegetatif tanaman cabai merah. *Jurnal MIPA*, 8(3) : 150-155.
- Senapati, Manoranjan, Ajit Tirwari, Neha Sharma, Priya Chandra, dan Bhisnu. 2022. *Rhizoctonia solani* K pathophysiology: status and prospects of sheath blight disease management in rice. *Frontiers in Plant Science*, 13:1-22.
- Simanjutak. 2020. Distribution of narrow brown leaf spot disease of rice (*Cercospora oryzae* Miyake) in North Sumatra. *International Conference on Agriculture, Environment and Food Security (AEFS)*, 454.
- Siregar AF. 2017. Assesment of effect of silicon application and improved water management on rice production in Indonesia. PhD Disertation The United Graduated School of Agricultural Science Tottori University, Japan.
- Soertaningsih, M. Akil, & N. N. Andayani. 2015. Cendawan tular tanah (*Rhizoctonia solani*) penyebab penyakit busuk pelepah pada tanaman jagung dan sorgum dengan komponen pengendaliannya. *Iptek Tanaman Pangan*, 10(2): 85-91.
- Stubendieck dan Straight. 2016. Characeristic of surfactin produced by *Bacillus* isolate B55. Biochemical.
- Subiksa, I G M. 2018. Pengaruh pupuk silika terhadap pertumbuhan dan hasil tanaman padi sawah pada inceptisols. *Jurnal Tanah dan Iklim*, 42(2) : 153-160.
- Suganda, T., E. Rismawati, E., Yulia, & Nasahi. 2020. Pengujian kemampuan beberapa bahan kimia dan air perasan daun tumbuhan dalam menginduksi resistensi padi terhadap penyakit bercak daun *Cercospora*. *Bionatura*, 4(1);17-28.

- Suganda, T., Endah Yulia, Fitri Widiyanti, dan Hersanti. 2016. Intensitas penyakit blas (*Pyricularia oryzae*) pada padi varietas Ciherang di lokasi dan pengaruhnya terhadap kehilangan hasil. *Jurnal Agrikultura*, 27(3):154-159.
- Suriani, S., Fikrinda, F., & Marlina, M. 2018. Pengendalian penyakit blas (*Pyricularia oryzae*) pada beberapa varietas padi gogo dengan menggunakan mikoriza indigenous dan non indigenous. *Jurnal Agroecotania: Publikasi Nasional Ilmu Budidaya Pertanian*, 1(1), 11-18.
- Suryadi, Y., Samudra, I. M., Priyatno, T. P., Susilowati, D. N., Lestari, P., & Sutoro, S. 2015. Aktivitas Anticendawan *Bacillus cereus* 11UJ terhadap *Rhizoctonia solani* dan *Pyricularia oryzae*. *Jurnal Fitopatologi Indonesia*, 11(2), 35-35.
- Suryadi, Y., Susilowati, D., Riana, E., & Mubarik, N. R. 2013. Management of rice blast disease (*Pyricularia oryzae*) using formulated bacterial consortium. *Emirates Journal of Food and Agriculture*, 349-357.
- Suryaningrum, Ratih, Edi Purwanto, dan Sumiyati. 2016. Analisis pertumbuhan beberapa vektor kedelai pada perbedaan intensitas cekaman kekeringan. *Agrosains*, 18(2) : 33-37.
- Tasliyah. 2012. Gen ketahanan tanaman padi terhadap bakteri hawar daun bakteri (*Xanthomonas oryzae* pv. *oryzae*). *Jurnal Litbang Pertanian*, 31(3):103-112.
- USDA. 2019. Rice sector. ers.usda.gov. Diakses pada 3 Maret 2023.
- Walascha, A., Febriana, A., Saputri, D., Haryanti, D. S. N., Tsania, R., & Sanjaya, Y. 2021. Review Artikel: Inventarisasi Jenis Penyakit yang Menyerang Daun Tanaman Padi (*Oryza sativa* L.). In *Prosiding Seminar Nasional Biologi* 1(2):471-478.
- W.-D., Khan, Tanveer, M., Shaukat, R., Ali, M., & Pirdad, F. 2020. Salt and Drought Stress Tolerance in Plants. *Springer*, 3-30.
- Wu L., Wu H., Chen L., Xie S., Zang H., Borriss R., & Gao X. 2014. Bacilysin from *Bacillus amyloliquefaciens* FZB42 has specific bactericidal activity against harmful algal bloom species. *Appl. Environ. Microbiol.* 80:7512–7520.
- Xu, T., Zhu, T. H., and Li, S. J. 2016. β -1,3–1,4-glucanase gene from *Bacillus velezensis* ZJ20 exerts antifungal effect on plant pathogenic fungi. *World J. Microbiol. Biotechnol.*, 32.
- Yanti, S., Marlina, M., & Fikrinda, F. 2018. Control of bacterial leaf blight in paddy rice using mycorrhizal fungi. *Journal of Agroecotania: National Publication of Agricultural Cultivation Sciences*, 1(2), 14-21.
- Ye, Miao, Xiangfang Tang, Ru Yang, Hongfu Zhang, Fangshu Li, Fangzheng Tao, Fei Li & Zaigui Wang. 2018. Characteristics and application of a novel species of *Bacillus* : *Bacillus velezensis*. *ACS Chemical Biology*, 13 : 500-505.
- Yuniawati, L. Abdulah, dan Permana. 2019. Kandungan dan serapan mineral pucuk Indiofera dari tanaman dengan kerapatan tanaman berbeda. *JINTP*, 19(2): 49-58.
- Yusri, Anggi Muhammad. 2021. Pusluhtan Kementan : Varietas padi. Cyber extension.

- Zerrouk, I. Z., Rahmoune, B., Khelifi, L., Mounir, K., Baluska, F., & Ludwig Müller, J. 2019. Algerian Sahara PGPR confers maize root tolerance to salt and aluminum toxicity via ACC deaminase and IAA. *Acta Physiologiae Plantarum*, 41(6), 1–10.
- Zhao H, Shao D, Jiang C, Shi J, Li Q, Huang Q, Rajoka MSR, Yang H, dan Jin. 2017. Biological activity of lipopeptides from *Bacillus*. *Appl Microbiol Biotechnol*, 101: 5951–5960
- Zhou, Tiang, Shiyu Yu, Yifan Hu, Yan Zhang, Yuecheng Song, Jieyu Chu, Changmei Liu, and Yijian Rao. 2021. Enhanced cercosporin production by co-culturing *Cercospora* sp. JNU001 whit leaf-spot-disease-related endophytic bacteria. *Microbial Cell Factories*, 20: 100.