



DAFTAR PUSTAKA

- Abd-Elhalem, B. T., El-Sawy, M., Gamal, R. F., & Abou-Taleb, K. A. (2015). Production of amylases from *Bacillus amyloliquefaciens* under submerged fermentation using some agro-industrial by-products. *Annals of Agricultural Sciences*, 60(2), 193–202.
- Ahemad, M., & Kibret, M. (2014). Mechanisms and applications of plant growth promoting rhizobacteria: current perspective. *Journal of King saud University-science*, 26(1), 1-20
- Aryantha, I. P., & Hidiyah, A. R. M. (2018). Colonization and performance of diazotroph endophytic bacteria on palm oil (*Elaeis guineensis Jacq L.*) leaves. In IOP Conference Series: Earth and Environmental Science (Vol. 166, No. 1, p. 012012). IOP Publishing.
- Asis, Constancio & Adachi, Katsuki & Akao, Shoichiro. (2004). N₂ fixation in sugarcane and population of N₂ fixing endophytes in stem apoplast solution. *Philippine Journal of Crop Science*. 29, 45-58.
- Astuti, F. W., Juita, N. R., & Ismiasih, I. (2016). Kemitraan usahatani tebu (*Saccharum officinarum L.*) di Kabupaten Purworejo Provinsi Jawa Tengah. *Jurnal masepi*, 1(1).
- Baldani, J. I., Reis, V. M., Videira, S. S., Boddey, L. H., & Baldani, V. L. D. (2014). The art of isolating nitrogen-fixing bacteria from non-leguminous plants using N-free semi-solid media: a practical guide for microbiologists. *Plant and Soil*, 384(1–2), 413–431.
- Becerra, S.C., Roy, D.C., Sanchez, C.J. *et al.* (2016). An optimized staining technique for the detection of Gram positive and Gram negative bacteria within tissue. *BMC Res Notes* 9, 216.
- Carvalho, T. L. G., Balsemão-Pires, E., Saraiva, R. M., Ferreira, P. C. G., & Hemerly, A. S. (2014). Nitrogen signalling in plant interactions with associative and endophytic diazotrophic bacteria. *Journal of experimental botany*, 65(19), 5631-5642
- Chauhan, H., Bagyaraj, D. J., & Sharma, A. (2013). Plant growth-promoting bacterial endophytes from sugarcane and their potential in promoting growth of the host under field conditions. *Experimental Agriculture*, 49(1), 43–52.
- Cooper, J. E., & Scherer, H. W. (2012). Chapter 16-Nitrogen Fixation A2-Marschner, Petra. Marschner's Mineral Nutrition of Higher Plants, 3, 389-408.
- Dixon, G. R., & Tilston, E. L. (Eds.). (2010). Soil microbiology and sustainable crop production. Springer Science & Business Media.
- Gang, S., Sharma, S., Saraf, M., Buck, M., & Schumacher, J. (2019). Analysis of indole-3-acetic acid (IAA) production in *Klebsiella* by LC-MS/MS and the Salkowski



method. Bio-Protocol, 9(9), 1–9.

Ghosh, S., Bhagwat, T., & Webster, T. J. (2021). Endophytic Microbiomes and Their Plant Growth-Promoting Attributes for Plant Health. In Current Trends in Microbial Biotechnology for Sustainable Agriculture. Springer, Singapore.

Gordon, S. A., & Weber, R. P. (1951). Colorimetric estimation of *indoleacetic acid*. Plant Physiology, 26(1), 192–195.

Govindarajan, M., Kwon, S. W., & Weon, H. Y. (2007). Isolation, molecular characterization and growth-promoting activities of endophytic sugarcane diazotroph *Klebsiella* sp. GR9. World Journal of Microbiology and Biotechnology, 23(7), 997–1006.

Hartono, Nurfitriani, Asnawati, F., Citra, H., Handayani, N. I., Junda, M., Ali, A., Hala, Y., & Jumadi, O. (2016). Ability of ammonium excretion, *indol acetic acid* production, and phosphate solubilization of nitrogen-fixing bacteria isolated from crop rhizosphere and their effect on plant growth. ARPN Journal of Engineering and Applied Sciences, 11(19), 11735–11741.

Hasuty, A., Choliq, A., & Hidayat, I. (2018). Production of *Indole Acetic Acid* (IAA) by *Serratia marcescens* subsp. *marcescens* and *Rhodococcus* aff. *qingshengii*. International Journal of Agricultural Technology, 14(3), 299–312.

Herlina, L., Pukan, K. K., & Mustikaning, D. (2016). Kajian bakteri endofit penghasil IAA (*Indole Acetic Acid*) untuk pertumbuhan tanaman. Sainteknol: Jurnal Sains dan Teknologi, 14(1), 51–58.

Herlina, L., Pukan, K. K., & Mustikaningtyas, D. (2017). The endophytic bacteria producing IAA (*Indole Acetic Acid*) in *Arachis hypogaea*. Cell Biology and Development, 1(1), 31–35.

Indrawanto, C., Purwono, Siswanto, M. Syakir, dan W. Rumini. 2010. Budi daya dan pascapanen Tebu. Pusat Penelitian dan Pengembangan Perkebunan, Bogor

Ji, S. H., Gururani, M. A., & Chun, S.-C. (2014). Isolation and characterization of plant growth promoting endophytic diazotrophic bacteria from Korean rice cultivars. Microbiological Research, 169(1), 83–98.

Kim, Y. S., Balaraju, K., & Jeon, Y. H. (2017). Biological characteristics of *Bacillus amyloliquefaciens* AK-0 and suppression of ginseng root rot caused by *Cylindrocarpon destructans*. Journal of Applied Microbiology, 122(1), 166–179.

Koomnok, C., Teaumroong, N., Rerkasem, B., & Lumyong, S. (2007). Diazotroph endophytic bacteria in cultivated and wild rice in Thailand. ScienceAsia, 33(4), 429–435.

Kumarapeli, K. A. D. V., Perera, U. I. D., & Welikala, N. Isolation and Characterization



of Plant growth-promoting Endophytic diazotrophic Bacteria from Sri Lankan Rice Cultivars and Rapid Screening for their effect on Plant Growth Promotion. International Journal of Environment, Agriculture and Biotechnology, 3(4), 264435

Kuypers, M. M., Marchant, H. K., & Kartal, B. (2018). The microbial nitrogen-cycling network. *Nature Reviews Microbiology*, 16(5), 263-276.

Leite, M., Pereira, A., Souza, A., Andrade, P., Barbosa, M., Andreote, F., Freire, F., & Sobral, J. (2018). Potentially Diazotrophic Endophytic Bacteria Associated to Sugarcane are Effective in Plant Growth-promotion. *Journal of Experimental Agriculture International*, 21(3), 1–15.

Leonard, R. H. (1963). Quantitative Range of Nessler'S Reaction With Ammonia. *Clinical Chemistry*, 12, 417–422

Liu, H., Zhang, L., Meng, A., Zhang, J., Xie, M., Qin, Y., Faulk, D. C., Zhang, B., Yang, S., & Qiu, L. (2017). Isolation and molecular identification of endophytic diazotrophs from seeds and stems of three cereal crops. *PLoS ONE*, 12(10), 1–11.

Luo, S., Xu, T., Chen, L., Chen, J., Rao, C., Xiao, X., & Liu, Y. (2012). Endophyte-assisted promotion of biomass production and metal-uptake of energy crop sweet sorghum by plant-growth-promoting endophyte *Bacillus* sp. SLS18. *Applied Microbiology and Biotechnology*, 93(4), 1745-1753.

Marcos, F. C. C., Iório, R. D. P. F., Silveira, A. P. D. D., Ribeiro, R. V., Machado, E. C., & Lagôa, A. M. M. D. A. (2015). Endophytic bacteria affect sugarcane physiology without changing plant growth. *Bragantia*, 75, 1-9.

Mendes, R., Pizzirani-Kleiner, A. A., Araujo, W. L., & Raaijmakers, J. M. (2007). Diversity of cultivated endophytic bacteria from sugarcane: genetic and biochemical characterization of *Burkholderia cepacia* complex isolates. *Applied and Environmental Microbiology*, 73(22), 7259–7267.

Mirza, B. S., & Rodrigues, J. L. M. (2012). Development of a direct isolation procedure for free-living diazotrophs under controlled hypoxic conditions. *Applied and Environmental Microbiology*, 78(16), 5542–5549.

Mohite, B. (2013). Isolation and characterization of *indole acetic acid* (IAA) producing bacteria from rhizospheric soil and its effect on plant growth. *Journal of Soil Science and Plant Nutrition*, 13(3), 638–649.

Montañez, A., Blanco, A. R., Barlocco, C., Beracochea, M., & Sicardi, M. (2012). Characterization of cultivable putative endophytic plant growth promoting bacteria associated with maize cultivars (*Zea mays* L.) and their inoculation effects in vitro. *Applied Soil Ecology*, 58, 21-28.

Muthukumarasamy, R., Kang, U. G., Park, K. D., Jeon, W. T., Park, C. Y., Cho, Y. S., ... & Revathi, G. (2007). Enumeration, isolation and identification of diazotrophs from



Korean wetland rice varieties grown with long-term application of N and compost and their short-term inoculation effect on rice plants. Journal of applied microbiology, 102(4), 981-991.

Ohyama, T., Momose, A., Otake, N., Sueyoshi, K., Sato, T., Nakanishi, Y., & Ando, S. (2014). Nitrogen fixation in sugarcane. Advances in biology and ecology of nitrogen fixation, 47-70.

Pertanian, K. M. (2004). Pelepasan Tebu Varietas Bululawang sebagai Varietas Unggul. Ditetapkan di Jakarta, 12

Paredes-Villanueva, J. J., Del Rosario, J. L., Urcia-Pulido, M. M., & Zavaleta-Armas, J. C. (2020). Plant growth promoter collection of *Gluconacetobacter diazotrophicus* from the northern coast of Peru. Scientia Agropecuaria, 11(1), 15–21.

Rahman, A., Sitepu, I. R., Tang, S. Y., & Hashidoko, Y. (2010). Salkowski's reagent test as a primary screening index for functionalities of rhizobacteria isolated from wild dipterocarp saplings growing naturally on medium-strongly acidic tropical peat soil. Bioscience, Biotechnology and Biochemistry, 74(11), 2202–2208.

Rodrigues, A. A., Forzani, M. V., Soares, R. de S., Sibov, S. T., & Vieira, J. D. G. (2016). Isolation and selection of plant growth-promoting bacteria associated with sugarcane. Pesquisa Agropecuária Tropical, 46(2), 149–158.

Rokhman, H., & Taryono, S. (2014). Jumlah anakan dan rendemen enam klon tebu (*Saccharum officinarum* L.) asal bibit bagal, mata ruas tunggal, dan mata tunas tunggal. Vegetalika, 3(3), 89-96.

Roper, M. M., & Gupta, V. V. S. R. (2016). Enhancing Non-symbiotic N₂ Fixation in Agriculture. The Open Agriculture Journal, 10(1), 7–27.

Rosenblueth, M., Ormeño-Orrillo, E., López-López, A., Rogel, M. A., Reyes-Hernández, B. J., Martínez-Romero, J. C., Reddy, P. M., & Martínez-Romero, E. (2018). Nitrogen fixation in cereals. Frontiers in Microbiology, 9(AUG), 1–13.

Santoso, B., Mastur, M., Djumali, D., & Nugraheni, S. D. (2015). Uji Adaptasi Varietas Unggul Tebu Pada Kondisi Agroekologi Lahan Kering/Adaptation Test of Superior Varieties Sugarcane in Dryland Agroecological Conditions. Jurnal Penelitian Tanaman Industri, 21(3), 109-116

Sessitsch A, Hardoin P, Döring J, Weilharter A, Krause A, Woyke T, Mitter B, Hauberg-Lotte L, Friedrich F, Rahalkar M, Hurek T, Sarkar A, Bodrossy L, van Overbeek L, Brar D, van Elsas JD, Reinhold-Hurek B (2012) Functional characteristics of an endophyte community colonizing rice roots as revealed by metagenomic analysis. Mol Plant-Microbe Interact 25:28–36

Singh, D., Sharma, A., & Saini, G. K. (2013). Biochemical and molecular characterisation of the bacterial endophytes from native sugarcane varieties of Himalayan region. 3



Biotech, 3(3), 205–212.

Soepardi, G. 1983. Sifat dan Ciri – Ciri Tanah. Bogor (ID) : Departemen Ilmu Tanah, Institut Pertanian Bogor. 591 hal.

Soares, M. A., Li, H. Y., Bergen, M., da Silva, J. M., Kowalski, K. P., & White, J. F. (2016). Functional role of an endophytic *Bacillus amyloliquefaciens* in enhancing growth and disease protection of invasive English ivy (*Hedera helix* L.). Plant and Soil, 405(1–2), 107–123.

Spaepen, S., & Vanderleyden, J. (2011). Auxin and Plant-Microbe Interactions. 1–13.

Spaepen, S., Vanderleyden, J., & Remans, R. (2007). *Indole-3-acetic acid* in microbial and microorganism-plant signaling. FEMS microbiology reviews, 31(4), 425-448.

Stein, L. Y., & Klotz, M. G. (2016). The nitrogen cycle. Current Biology, 26(3), R94-R98.

Tang, A., Haruna, A. O., Majid, N. M. A., & Jalloh, M. B. (2020). Potential PGPR properties of cellulolytic, nitrogen-fixing, phosphate-solubilizing bacteria in rehabilitated tropical forest soil. Microorganisms, 8(3), 442.

Tam, H. M., & Diep, C. N. 2014. Isolation, characterization and identification of endophytic bacteria in sugarcane (*Saccharum* spp. L.) cultivated on soils of the Dong Nai province, Southeast of Vietnam. Am J Life Sci, 2(6), 361-368.

Urquiaga, S., Xavier, R. P., Morais, R. F., Batista, R. B., Schultz, N., Leite, J. M., Sá, J. M., Barbosa, K. P., Resende, A. S., Alves, B. J. R. and Boddey, R. M. (2012). Evidence from field nitrogen balance and ¹⁵N natural abundance data for the contribution of biological N₂ fixation to Brazilian sugarcane varieties. Plant and Soil, 356, 5-21.

Qin, S., Xing, K., Jiang, J. H., Xu, L. H., & Li, W. J. (2011). Biodiversity, bioactive natural products and biotechnological potential of plant-associated endophytic actinobacteria. Applied Microbiology and Biotechnology, 89(3), 457-473.

Welbaum, G. E., Sturz, A. V., Dong, Z., & Nowak, J. (2004). Managing soil microorganisms to improve productivity of agro-ecosystems. Critical Reviews in Plant Sciences, 23(2), 175-193.

Zhang, X., Ward, B. B., & Sigman, D. M. (2020). Global nitrogen cycle: critical enzymes, organisms, and processes for nitrogen budgets and dynamics. Chemical Reviews, 120(12), 5308-5351.

Zhao, Y., Shi, R., Bian, X., Zhou, C., Zhao, Y., Zhang, S., & Zhang, T. (2019). Ammonia detection methods in photocatalytic and electrocatalytic experiments: how to improve the reliability of NH₃ production rates?. Advanced Science, 6(8), 1802109.



**ISOLASI, SELEKSI, DAN IDENTIFIKASI BAKTERI ENDOFIT DIAZOTROF DARI TANAMAN TEBU
VARIETAS PS-864 DAN
BULULAWANG**

AULIA ALFI NUR R, Prof. Ir. Sebastian Margino, Ph.D.; Ir. Jaka Widada, M.P., Ph.D.

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