

## DAFTAR PUSTAKA

- Al-Mujahidy, Sk. Md., Md. M. Hassan, Md. M. Rahman, and A.N.M. Mamun-Or-Rashid. Isolation and characterization of *Rhizobium* spp. and determination of their potency for growth factor production. *International Research Journal of Biotechnology* 4 (7) : 117-123.
- Anonymous. 2014. Siratro : *Macroptilium atropurpureum* (<https://www.daf.qld.gov.au/plants/>). Diakses 2 Februari 2016.
- Bala, A., P. J. Murphy, and K. E. Giller. 2004. Classification of tropical tree rhizobia based on phenotypic characters forms nested clusters of phylogenetic groups. *West African Journal of Applied Ecology* 6 : 9-19.
- Berrada, H. and F. Benbrahim. 2014. Taxonomy of the rhizobia : current perspectives. *British Microbiology Research Journal* 4 (6) : 616-639.
- Bochner, B. R. 2009. Global phenotypic characterization of bacteria. *Federation of European Microbiological Societies Review* 33: 191-205.
- Brencic, A. and S. C. Winans. 2005. Detection of and response to signals involved in host microbe interactions by plant-associated bacteria. *Microbial Molecular Review* 69 : 155-194.
- Brewin, N.J. 2002. Pods and Nods : a new look at symbiotic nitrogen fixing. *Biologist* 49 (3) : 1-5.
- Bruning, B. and J. Rozema. 2013. Symbiotic nitrogen fixation in legumes : Perspective for saline agriculture. *Environmental and Experimental Botany* 92 : 134-143.
- Burdass, D. 2002. *Rhizobium*, Root Nodules and Nitrogen Fixation. Society for General Microbiology.
- Catoira, R., Gelera., D. Billy., Penmetsa., Etienne., F. Maillet., C. Rosenberg., D. Cook., Gougha., and Denarie. 2000. Four Gens of *Medicago truncatula* controlling components of a Nod Factor transduction pathway. *American Society of Plant Physiologists* 12: 1647-1665.
- Cauwenberghe, J.V., J. Michies, and O. Honnay. 2015. Effects of local environmental variables and geographical location on the genetic diversity and composition on *Rhizobium leguminosarum* nodulating *Vicca cracca* population. *Soil Biology and Biochemistry* 90 : 71-79.
- Danarto, S.A. 2013. Keragaman dan potensi koleksi polong-polongan (Fabaceae) di Kebun Raya Purwodadi. Balai Konservasi Tumbuhan Kebun Raya Purwodadi – LIPI, Pasuruan.

- De Bruijn. 1992. Use of repetitive (repetitive rxtrogenic palindromic and enterobacterial repetitive intergeneric consensus) sequences and the polymerase chain reaction to fingerprint the genomes of *Rhizobium meliloti* isolates and other soil bacteria. *Applied and Environmental Microbiology* 58 : 2180-2187.
- Denison, R.F., and E.T. Kiera. 2011. Life histories of symbiotic rhizobia and mycorrhizal fungi. *Current Biology* 21 : R775 – R785.
- Emlen, J.T. 1974. An urban bird community in tucson, Arizona : derivation, structure, regulation. *The Condor* 76 : 184-197.
- Fatima, Z., M. Zia., dan M.C. Haudhary. 2006. Effect of *Rhizobium* strain and phosphorus on growth of soybean (*Glycine max*) and survival of *Rhizobium* and P-solubizing bacteria. *Pakistan Journal of Botany* 2:459-464.
- Friesen, M.L. 2012. Widespread fitness alignment in the legume-rhizobium symbiosis. *New Phytologist* 194 : 1096-1111.
- Ghosh, W. and P. Roy. 2006. *Mesorhizobium thioangeticum* sp. nov., a novel sulfur-oxidizing chemolithoautotroph from rhizosphere soil of an Indian tropical leguminous plant. *International Journal of Systematic and Evolutionary Microbiology* 56 (1) : 91-97.
- Graham, P.H., and C.P. Vance. 2003. Legumes : importance and constraints to greater use. *Plant Physiology* 131: 872–877.
- Gao, J. L., S. L. Turner, F. L. Kan, E. T. Wang, Z. Y. Tan, Y. H. Qiu, J. Gu, Z. Terefework, J. P. W. Young, K. Lindstorm, W. X. Chen. 2004. *Mesorhizobium septentrionale* sp. Nov., isolated from *Astragalus adsurgens* growing in the noerthern regions of China. *International Journal of Systematic and Evolutionary Microbiology* 54: 2003-2012.
- Gomez, S.M., and A. Kalamani. 2003. Butterfly pea (*Clitoria ternatea*) : a nutritive multipurpose forage legume for the tropics – an overview. *Pakistan Journal of Nutrition* 2 (6) : 374-379.
- Guimaraes, A. A., P. M.D. Jaramillo, R. S. A. Nobrega, L. A. Florentino, K. B. Silva dan F. M. S. Moreira. 2012. Genetic and symbiotic diversity of nitrogen-fixing bacteria isolated from agricultural soils in the Western Amazon by using cowpea as the trap plant. *Applied and Environmental Microbiology* 78: 6726-6733.
- Hadioetomo, R. S. 1993. *Mikrobiologi Dasar Dalam Praktek: Teknik dan Prosedur Laboratorium*. PT. Gramedia Pustaka Utama, Jakarta.
- Hamid, S., S. Muzaffar, I. A. Wani, F. A. Masoodi dan M. M Bhat. 2014. Physical and cooking characteristics of two cowpea cultivars grown in temperate Indian climate. *Journal of the Saudi Society of Agricultural Sciences* (<http://dx.doi.org/10.1016/j.jssas.2014.08.002>). Diakses 22 Desember 2015.

- Hidayat, A.2003. Komposisi unsur dalam cuplikan partikulat udara daerah Bandung dan Lembangtahun 1999. Jurnal Sains Dan Teknologi Nuklir Indonesia 4 : 2.
- Hornbyn, F. 1990. Root Disease – The Rhizosphere. John Wiley & Sons. New York.
- Janczarek, M., K. Rachwal, A. Marzec, and J. Grzadziel. 2015. Signal molecules and cell-surface components involved in early stages of the legume-rhizobium interactions. Applied Soil Ecology 85 : 94-113.
- Jaramillo, P.M.D., A.A. Guimares, L.A. Florentino, K.B. Silva, R.S.A. Nobrega, and F.M.S. Moreira. 2013. Symbiotic nitrogen-fixing bacterial populations trapped from soils under agroforestry systems in the western Amazon. Scientia Agricola 70 (6) : 397-404.
- Jutono, J. Soedarsono, S. Hartadi., S. Kabirun., Suhadi., dan Soesanto. 1973. Pedoman Praktikum Mikrobiologi Umum untuk Perguruan Tinggi. Departemen Mikrobiologi, Fakultas Pertanian, Universitas Gadjah Mada Yogyakarta.
- Jutono. 1982. Fiksasi Nitrogen (N<sub>2</sub>) pada Leguminose dalam Pertanian, Fakultas Pertanian UGM, Yogyakarta.
- Keyser, H.H., P.V. Berkum, and D.F. Weber. 1982. A comparative study of the physiology of symbiosis formed by *Rhizobium japonicum* with *Glycine max*, *Vigna unguiculata*, and *Macroptilium atropurpureum*. Plant Physiology 80 : 1626-1630.
- Kulkarni, S., S. Surange, and C.S. Nautiyal. 2000. Crossing the limits of *rhizobium* existence in extreme conditions. Current Microbiology : An International Journal 41 : 402-409.
- Kumar, S.P. 2012. Characterization and cross inoculation groups studies of Rhizobia isolated from crop wild relatives of Vigna. Department of Botany, Faculty of Science, University of Pradeniya, Sri Lanka.
- Kuykendall, L. D., J. M. Young, E. Martinez-Romero, A. Kerr, and H. Sawada. 2005. *Rhizobium*. In: Don J. Brenner, Noel R. Krieg, and James T. Staley (Eds.). Bergey's Manual of Systematic Bacteriology 2<sup>nd</sup> ed. Vol. 2. Springer, New York.
- Lewis, E.G., B. Schrire, and B. Mackinder. 2005. Legume Of The World. Kew Publishing, London.
- Lindeque, M. I. 2006. Diversity of root nodule bacteria associated with *Phaseolus coccineus* and *Phaseolus vulgaris* species in South Africa. Department of Microbiology and Plant Pathology, Faculty of Natural and Agriculture Sciences, University of Pretoria. Doctoral Disertation.
- Ling, K.H., C.T. Kian, and T. C. Hoon. 2009. A Guide To Medicinal Plants : An Illustrated, Scientific, and Medicinal Approach. World Scientific Publishing Company. Singapore.

- Lopez-lopez, A., A. Marco, Rogel-Hernandez, I. Barois, A.I.O. Ceballos, J. Martinez, E. Ormeno-Orrillo, and E. Martinez-Romero. 2012. *Rhizobium grahamamii* sp. nov., from nodules of *Dalea leporina*, *Leucaena leucocephala* and *Clitoria ternatea*, and *Rhizobium mesoamericanum* sp. nov., from nodules of *Phaseolus vulgaris*, siratro, cowpea and *Mimosa pudica*. International Journal of Systematic and Evolutionary Microbiology 62 : 2264-2271.
- Madigan, M. Tj., J. M. Martinko, dan J. Parker. 2009. Brock : Biology of Microorganism. 12th Edition Pretince Hall. USA.
- Mahdhi, A. Fterich, R. Mokhtar, I. David, dan M. Mars. 2012. Legume nodulating bacteria (bakteri pembintil akar) from three pasture legumes (*Vicia sativa*, *Trigonella maritime*, and *Hedysarum spinosissimum*) in Tunisia. Annals of Microbiology 62 : 61-68.
- Mukherjee, P. K., V. Kumar, N. S. Kumar, dan M. Heinrich. 2008. The Ayuverdic medicine *Clitoria ternatea*-From traditional use to scientific assessment. Journal of Ethnopharmacology 120 : 291-301.
- Nadeem,S.M., M. Naveed, M. Ahmad, and Z.A.Zahir. 2015. Rhizosphere bacteria for crop production and improvement of stress tolerance : mechanisms of action, application, and future prospects. Plant Microbes Symbiosis : Applied Facts Springer : 1-36
- Norris, J.R., and Douglas W.R. 2002. 1 : Routine Biochemical Test. Methods in Microbiology : 10.
- Oblisami, G. 1974. Studies on the rhizobium and nodulation pattern in a forage legume, *Clitoria ternatea* Linn. Tamil Nadu Agricultural University 40B (6) : 618-623.
- Orwa, C., A. Mutua. R. Kindt, R. Jamnadass, and S. Anthony. 2009. Agroforestry Database : a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>). Diakses 17 Oktober 2014.
- Peoples, M.B., A.W. Faizah, B. Rerkasem, and D.F. Herridge. 1989. Method for Evaluating Nitrogen Fixation by Nodulating Legumes in the Field. Australian Academy of Science. Canberra.
- Rao, N. S. S. 1982. Biofertilizers in Agriculture. Oxford & IBH Publishing Company. New Delhi, Bombay, Calcutta
- Rao, N. S. 1994. Mikrobiologi Tanah dan Pertumbuhan Tanaman Edisi Kedua. UI Press, Jakarta.
- Rasolomampianina, R., X. Bailly, R. Fetiarison, R. Rabevohitra, G. Bena, L. Ramarason, M. Raherimandimby, L. Moulin, P. De lajudie, B. Dreyfus, and J.C. Avarre. 2005. Nitrogen-fixing nodules from rose wood legume trees (*Dalbergia spp.*) Endemic to

- madagascar host seven different genera belonging to  $\alpha$ - and  $\beta$ -*proteobacteria*. *Molecular Ecology* 14 : 4135-4146.
- Sadowsky, M. J., H. H. Keyser, and B. B. Bohlool. 1983. Biochemical characterization of fast and slow growing rhizobia that nodulated soybeans. *International Journal of Systematic Bacteriology* 33 : 716-722.
- Saxena, A.K., J.J. Kingston, S. Mondal, and R. Shende. 2005. Biodiversity of cowpea rhizobia (*Bradyrhizobium* spp.) in Indian soils. *Microbial Diversity : Current Perspectives and Potential Application* : 427-456.
- Scholla, M.H. and G.H. Elkan. 1984. *Rhizobium fredii* sp. nov., a fast-growing species that effectively nodulates system. *International Journal of Systematic Bacteriology* 34 (4) : 484-486.
- Schumpp, O., and W.J. Deakin. 2010. How inefficient rhizobia prolong existence within nodules. *Trends in Plant Science* 15 (4) : 189 – 195.
- Somasegaran, P. and H.J. Hoben. 1985. *Methods in Legume : Rhizobium Technology*. Department of Agronomy and Soil Science, University of Hawaii.
- Spaepen, S., J. Vanderleyden, and R. Remans. 2007. Indole-3-acetic acid in microbial and microorganism plant and signaling. *Federation of European Microbiological Societies Review* : 1-24.
- Sumarno. 1984. *Kedelai dan Cara Budidayanya*. Yasaguna, Jakarta.
- Tariq, S. Hameed., T. Yasmeen., dan A. Ali. 2012. Non-rhizobial bacteris for improved nodulation and grain yield of mung bean (*Vigna radiata* (L.) Wilczek). *African Journal of Biotechnology* 11: 15012-15019.
- Varshney, R.K., S.M. Mohan, P.M. Gaur, N.V.P.R. Gangarao, M.K. Pandey, A. Bohra, S.K. Sawargaonkar, A. Chitikineni, P.K. Kimurto, P. Janila, K.B. Saxena, A. Fikre, M. Sharma, A. Rathore, A. Pratap, S. Tripathi, S. Datta, S.K. Chaturvedi, N. Mallikarjuna, G. Anuradha, A. Babbar, A. K. Choudhary, M.B. Mhase, Ch. Bharadwaj, D.M. Mannur, P.N. Harer, B. Guo, X. Liang, N. Nadarajan, and C.L.L. Gowda. 2013. Achievements and prospects of genomics-assisted breeding in three legume crops of the semi-arid tropics. *Biotechnology Advances* 31 : 1120-1134.
- Vincent, J. M. 1970. *A Manual for the Practical Study of the Root Nodule Bacteria*. IBP Hand Book No. 15. Blackwell Scientific Publishing, Oxford.
- Weaver, R.W. 1970. Population of *Rhizobium japonicum* in Iowa soils and inoculum level needed for nodulation of *Glycine max* (L.) Merril. Iowa State University. *Retrospective Theses and Disertations*.
- Wedhastri, S. 2002. Isolasi dan seleksi *Azotobacter* spp. penghasil faktor tumbuh dan penambat nitrogen dari tanah masam. *Jurnal Ilmu Tanah Lingkungan* 3 (1) : 45-51.

Woomer, P., P.W. Singleton, and B.B. Bohlool. 1988. Ecological indicators of native rhizobia in tropical soil. *Applied and Environmental Microbiology* 54 (5) : 1112.

Yuwono, T. 2006. *Bioteknologi Pertanian*. Gadjah Mada University Press. Yogyakarta