



DAFTAR PUSTAKA

- Abd-Alla, M.H., Issa, A.A. and Ohyama, T., 2014. Impact of harsh environmental conditions on nodule formation and dinitrogen fixation of legumes. *Advances in biology and ecology of nitrogen fixation*, 9, p.1.
- Abuarab, M.E., Mohamed M. El-Mogy, Ahmed M.H., Emad A.A., Noha H. A., and Mohamed B. I. El-Sawy., 2019. The Effects of Root Aeration and Different Soil Conditioners on the Nutritional Values, Yield, and Water Productivity of Potato in Clay Loam Soil. *Agronomy*, (9), p. 418.
- Agus, C. 2012. *Pengelolaan Bahan Organik: Peran Dalam Kehidupan dan Lingkungan*. BPFE. Yogyakarta.
- Appleby, C.A., 1984. Leghemoglobin and Rhizobium respiration. *Annual Review of Plant Physiology*, 35(1), pp.443-478.
- Badan Perencanaan Pembangunan Daerah Daerah Istimewa Yogyakarta (BAPEDDA-DIY). 2013. *Publikasi Data Spasial*. BAPEDDA-DIY. Yogyakarta.
- Becana, M., and Klucas, R.V. 1992. Oxidation and Reduction of Leghemoglobin in Root Nodules of Leguminous Plants. *Plant Physiology*, (98) pp. 1217-1221.
- Berg B., and McClaugherty C. 2008. *Plant Litter; decomposition, humus formation, carbon sequestration*. Springer, Berlin.
- Bhuvaneswari, T.V., 1981. Recognition mechanisms and infection process in legumes. *Economic Botany*, 35(2), pp.204-223.
- Bloom, A. J., Jackson, L. E., and Smart, D. R. 1993. Root growth as a function of ammonium and nitrate in the root zone. *Plant Cell Environ.* (16) pp. 199–206.
- Brewbaker, J.L., Gonzalez, V. and Plucknett, D.L. 1972. *Varietal variation and yield trials of Leucaena leucocephala (Koa Haole) in Hawaii*. Hawaii Agricultural Experiment Station, University of Hawaii. Hawaii.
- Brown, S. and Cotton, M., 2011. Changes in soil properties and carbon content following compost application: Results of on-farm sampling. *Compost Science & Utilization*, 19(2), pp.87-96.
- Buol, S.W., Southard, R.J., Graham, R.C. and McDaniel, P.A., 2011. *Soil genesis and classification*. John Wiley & Sons. USA.
- Chaer, G. M., Resende, A. S., Campello, E. F. C., de Faria, S. M., and Boddey, R. M. 2011. Nitrogen-Fixing Legume Tree Species for the Reclamation of Severely Degraded Lands in Brazil. *Tree Physiology*, 31(2) pp. 139-149.
- Cook, B. G., Pengelly, B. C., Brown, S. D., Donnelly, J. L., Eagles, D. A., Franco, M. A., Hanson, J., Mullen, B. F., Partridge, I. J., Peters, M., Schultze-Kraft,



- R. 2005. *Tropical forages*. CSIRO, DPI&F(Qld), CIAT and ILRI. Brisbane, Australia.
- Costa, O.Y., Raaijmakers, J.M., and Kuramae, E.E., 2018. Microbial extracellular polymeric substances: ecological function and impact on soil aggregation. *Frontiers in microbiology*, (9), p.1636.
- Darmawijaya, I. 1990. *Klasifikasi Tanah*. Gadjah Mada University Press. Yogyakarta.
- Dickson, A., Leaf, A. L., & Hosner, J. F. 1960. Quality appraisal of white spruce and white pine seedling stock in nurseries. *Forest Chronical* (36), pp.10-13.
- Dijkman, M.J. 1950 Leucaena-A promising soil erosion control plant. *Economic Botany*, (4) pp. 337-349.
- Dinas Lingkungan Hidup dan Kehutanan Pemerintah Daerah Istimewa Yogyakarta (DLHK-DIY). 2019. *Buku Statistik Kehutanan*. DLHK DIY. Yogyakarta.
- Everard, J.D., and Drew, M.C., 1989. Mechanisms controlling changes in water movement through the roots of *Helianthus annuus* L. during continuous exposure to oxygen deficiency. *Journal of Experimental Botany*, 40(1), pp.95-104.
- Ferdousee, Nure & Jabbar, Farhana & Hossain, Mohammed & Hoque, A.T.M.. 2011. Comparative Growth Performance of *Leucaena leucocephala* and *Gliricidia sepium* Seedlings Raised in Nursery Bed, Polybag and Root Trainers. *International Journal of Environment*. (1), 14-20.
- Franco, A.A. dan De Varia, S.M. 1997. The Contribution of N₂-Fixing Tree Legumes to Land Reclamation and Sustainability in The Tropics. *Soil Biology and Biochemistry*, 29(5-6), pp. 897-903.
- Geurts, R., and franssen, H. 1996. Signal transduction in Rhizobium Induced Nodule formation. *Plant Physiol*, (112) pp. 447-453.
- Gibbs, J., and Greenway, H., 2003. Mechanisms of anoxia tolerance in plants. I. Growth, survival and anaerobic catabolism. *Functional Plant Biology*, 30(1), pp.1-47.
- Graham, P.H., 1992. Stres tolerance in Rhizobium and Bradyrhizobium, and nodulation under adverse soil conditions. *Canadian Journal of Microbiology*, 38(6) pp.475-484.
- Guala G., Döring M. 2021. *Leucaena leucocephala (Lam.) de Wit*. In: Integrated Taxonomic Information System (ITIS). National Museum of Natural History, Smithsonian Institution. USA
- Hamdi, Y.A., 1971. Soil-water tension and the movement of rhizobia. *Soil Biology and Biochemistry*, 3(2), pp.121-126.
- Herridge, D. F. 2008. Inoculation Technology for Legumes. In *Nitrogen-Fixing Leguminous Symbioses* (pp. 77-115). Springer. Dordrecht.



- Hofius, D. and Börnke, F.A., 2007. Photosynthesis, carbohydrate metabolism and source–sink relations. In *Potato biology and biotechnology*, pp. 257-285.
- Hughes, C. 1998. Monograph of Leucaena (Leguminosae-Mimosideae). *Systemic Botany Monograph*, (55) pp. 1-244
- Ibrahim, A.M. and Abd El-Samad, G.A., 2009. Effect of different irrigation regimes and partial substitution of N-mineral by organic manures on water use, growth and productivity of pomegranate trees. *European Journal of Scientific Research*, 38(2), pp.199-218.
- Integrated Taxonomic Information System (ITIS). 2021. *Leucaena leucocephala* (Lam.) de Wit .<https://www.itis.gov/servlet/SingleRpt/SingleRpt?name=Leucaena%20leucocephala&rank=species&language=en&source=1>
- Islam, M., Nahar, T.N. and Islam, M.R., 1995. Productivity and nutritive value of Leucaena leucocephala for ruminant nutrition-review. *Asian-Australasian Journal of Animal Sciences*, 8(3) pp.213-217.
- Jarvis, B.D.W., Gills, M., and Deley, J. 1986. Intra and Intergeneric Similarities Between the Ribosomal Ribonucleic Acid Cistrons of Rhizobium and Bradyrhizobium Species and Some related bacteria. *Int. J. syst. Bacteriol.*, (36) pp. 129-138
- Jayasuriya, K., Wijetunga, A., Baskin, J., & Baskin, C. 2013. Seed Dormancy and Storage Behaviour in Tropical Fabaceae: A study of 100 Species from Sri Lanka. *Seed Science Research*, 23(4) pp. 257-269.
- Jessica G., Karen D., Giulia B., Israel I., Fiona C., Raul C.R., Paul D.C., Achim S., 2021. Drainage class and soil phosphorus availability shape microbial communities in Irish grasslands. *European Journal of Soil Biology*.
- Jones, R.J., Brewbaker, J.L., Sorensson, C.T. 1992. *Plant Resources of South-East Asia No. 4 Forages*. Pudoc Scientific Publishers. Wageningen, Netherlands
- Kape R., Parniske M., and Werner D. 1991. Chemotaxis and nod gene activity of Bradyrhizobium japonicum in response to hydrocinnamic acids and isoflavonoids. *Appl. Environ. Microbiol.* (57) pp. 316-319.
- Kijine, J.W. (1992). The Rhizobium infection process. Pages 349-398.
- Kimura, E., & Islam, M. A. 2012. Seed Scarification Methods and Their Use in Forage legumes. *Research Journal of Seed Science*, 5(2), pp. 38-50.
- Kinzel, H., 1989. Calcium in the vacuoles and cell walls of plant tissue. *Flora*, 182(1-2) pp.99-125.
- Konnova, M. M. 1996. *Soil Organic Matter; Its nature, its role, in soil Formation and in soil fertility*. Pergamon Press Ltd. UK.
- Lemkine, G., and Lesueur, D. 1998. *Assessment Of Growth, Nodulation And Nitrogen Fixation Of Lesser-Known Leucaena Species Inoculated With Different Rhizobium Strains In Greenhouse Conditions*. ACIAR proceedings, (86), pp. 168-171.



- Lerouge, P., Roche, P., Faucher, C., Maillet, F., Truchet, G., Promé, J.C. and Dénarié, J., 1990. Symbiotic host-specificity of Rhizobium meliloti is determined by a sulphated and acylated glucosamine oligosaccharide signal. *Nature*, 344(6268), pp.781-784.
- Lesueur Didier, Date R.A., and Mullen B.F. 1999. Rhizobium specificity in Leucaena. In *Leucaena - Adaptation, quality and farming systems*. ACIAR, pp. 86-95.
- Lewis D.W., and McConchie D., 1994. Clays and Colloids. In *Practical Sedimentology*. Springer, Boston, MA.
- Lim, T.K., 2012. Leucaena leucocephala. In *Edible Medicinal And Non-Medicinal Plants*. Springer. Dordrecht.
- MacDicken GK. 1994. *Selection and management of nitrogen fixing trees*. Winrock International Inst. for Agricultural Development and FAO Bangkok. USA.
- Maia, J., Guimarães, C. C., Da Silva, E. A. A., & Faria, J. M. R. 2016. What Can Cell Cycle and Ultrastructure Tell Us About Desiccation Tolerance in Leucaena Leucocephala Germinating Seeds?. *Biologia plantarum*, 60(2), pp. 320-328.
- McVaugh, Rogers. 1983. *Flora Novo-Galicianae: a descriptive account of the vascular plants of western Mexico*. University of Michigan Press. Ann Arbor.
- Morris, D.T., and Daynard, T.B., 1978. Influence of soil density on leaf water potential of corn. *Canadian Journal of Soil Science*, 58(2), pp.275-278.
- Nambiar, P.T.C., Rao, M.R., Reddy, M.S., Floyd, C.N., Dart, P.J. and Willey, R.W., 1983. Effect of intercropping on nodulation and N₂-fixation by groundnut. *Experimental Agriculture*, 19(1), pp.79-86.
- National Academy of Sciences. 1980. *Firewood crops: shrub and tree species for energy production*. National Academy of Sciences Publisher. Washington, USA.
- National Academy of Sciences. 1984. *Leucaena: Promising forage and tree crop for the tropics*. 2nd ed. National Academy of Sciences Publisher. Washington, USA.
- Omi, S. K., Howe, G. T. & Duryea, M. L. 1986. First Year Field Performance of Douglas-fir Seedlings in Relation to Nursery Characteristics. In *General Technical Report RM-137*. Fort Collins, CO: USDA Rocky Mountain Forest and Range Experiment Station. 29 - 34.
- Pambudi, A. 2020. Kerusakan Lingkungan Sebagai Dampak Penambangan Batu Kapur di Bentang Alam Karst Kabupaten Gunungkidul. *Pranata Hukum*, 15(2), pp. 212-220.
- Paredes, D., Roba, M., D'Amico, J.P., Romito, A. and Tesouro, O., 2008. Effect Of Soil Compaction On The Nodulation And Yields On A Soybean Crop



(*Glycine max*). In *CIGR-International Conference of agricultural engineering*. Brazil.

Parrotta, John A. 1992. *Leucaena leucocephala (Lam.) de Wit. Leucaena, tantan*. Department of Agriculture, Forest Service, Southern Forest Experiment Station. New Orleans, USA.

Passioura, J.B., 1991. Soil structure and plant growth. *Australian Journal of Soil Research*, 29(6) pp.717 - 728.

Robertson, J. G. & Farnden, K. J. F. 1988. Ultrastructure and Metabolism of Developing Root Nodule. *The Biochemistry of Plants*, (5) pp. 65-113.

Ritchie, G. A. 1984. Root growth potential; principles, procedures and predictive ability. In Duryea, M. L. *Proceedings evaluation seedling quality; principles, procedures and predictive abilities of mayor test*. Forest Research Laboratory. Oregon State University. pp.93-105.

Rutten, P.J. and Poole, P.S., 2019. Oxygen regulatory mechanisms of nitrogen fixation in rhizobia. *Advances in microbial physiology*, 75, pp.325-389.

Sanchez, P. A. 1976. *Properties and Management of Soils in The Tropics*. John Wiley & Sons. New York, USA.

Sanginga, N., Mulongoy, K. & Ayanaba, A. 1988. Nodulation and growth of *Leucaena leucocephala* (Lam.) de Wit as affected by inoculation and N fertilizer. *Plant Soil*, (112) pp. 129–135.

Scnitzer, M. and Khan, S. U. 1978. *Soil Organic Matter*. Elsevier Scientific Publishing Company. New York.

Shelton, H.M. and Brewbaker, J.L. 1994. *Leucaena leucocephala*-the most widely used forage tree legume. *Forage tree legumes in tropical agriculture*. CAB International. Wallingford, UK.

Sindhu, S.S. and Dadarwal, K. R. 1995. Molecular Biology of Nodule Development and Nitrogen Fixation in Rhizobium-Legume Symbiosis. In *Nitrogen Nutrition in Higher Plants*.

Sitompul SM, Guritno B. 1995. *Analisis Pertumbuhan Tanaman*. Gadjah Mada University Press, Yogyakarta.

Somasegaran, P., & Hoben, H. J. 1994. *Handbook for rhizobia: methods in legume-Rhizobium technology*. Springer Science & Business Media. New York, USA.

Somasegaran, P., & Martin, R.B. 1986. Symbiotic Characteristics and Rhizobium Requirements of a *Leucaena leucocephala* × *Leucaena diversifolia* Hybrid and Its Parental Genotypes. *Applied and Environmental Microbiology*, (52) pp. 1422 - 1424.

Srivastava, H.S., dan Singh, R.P. 1999. *Nitrogen Nutrition and Plant Growth*. Science Publishers, Inc. Enfield, USA.



- Suhardjo, H., & Soepraptohardjo, M. 1982. *Indonesian Soil Units and Subunits for Survey and Mapping of Transmigration Areas*. Wageningen Agricultural University. Netherland
- Sulaksono, D.H., 2021. *Kajian Tingkat Perkembangan Tanah di Pathuk, Gunung Kidul*. Fakultas Pertanian Universitas Gadjah mada. Yogyakarta.
- Sumono, Loka, P.P., dan Nasution D.L.S. (2018). Revamping of entisol soil physical characteristics with compost treatment. *IOP Conference Series: Earth and Environmental Science*.
- Supriyadi, A. 2012. *Potensi Hijauan Sebagai Sumber Pakan Ternak Sapi Potong pada Musim Kemarau di Daerah Pertanian Lahan Kering Kabupaten Gunungkidul*. Fakultas Peternakan Universitas Sebelas Maret (UNS). Solo.
- Sutanto, R. 2002. *Pertanian Organik Menuju Pertanian Alternatif dan Berkelaanjutan*. Penerbit Kanisius. Yogyakarta.
- Sutejo, M. M. dan Kartosapoetra, A. G. 1988. *Pupuk dan Cara Pemupukan*. Rineka Cipta. Jakarta
- Taiz, L., Zeiger, E., Møller, I.M. and Murphy, A., 2015. *Plant physiology and development* (Ed. 3). Sinauer Associates Incorporated. USA.
- Tan, K.H., 2008. *Soils in the humid tropics and monsoon region of Indonesia*. CRC Press. USA
- Tomar, O.S., Gupta, R.K. 1985. Performance of some forest tree species in saline soils under shallow and saline water-table conditions. *Plant and Soil*. (87), pp. 329-335.
- Uddin, M.B., Mukul, S.A., and Hossain, M.K. 2012. Effects of organic manure on seedling growth and nodulation capabilities of five popular leguminous agroforestry tree components of Bangladesh. *Journal of Forest and Environmental Science*, 28(4) pp.212-219.
- Van den Beldt, Brewbaker, J.L., James, L. 1985. *Leucaena wood production and use*. Nitrogen Fixing Tree Association Publisher. Hawaii.
- Verma, D.P.S. 1992. Signals in Root Nodules Organogenesis and Endocytosis of Rhizobium. *Plant Cell*, (4) pp. 373-382.
- Voncir, N., Kparmwang, T., Amba, A.A. and Hassan, A.M., 2006. Variation in morphological properties and particle size distribution of alfisols, inceptisols and entisols in the Gubi soil series, Bauchi, Nigeria. *Journal of Applied Sciences*, 6(13) pp.2821-2824.
- Wong, M.H., Wong, J.W.C., Baker, A.J.M. 1999. *Remediation and Management of Degraded Lands*. CRC Press. Florida, USA
- Yate, M. G. 1980. Biochemistry of Nitrogen Fixation. *The Biochemistry of Plants*, (5) pp. 1-63.



UNIVERSITAS
GADJAH MADA

PENGARUH PENAMBAHAN BAHAN ORGANIK DAN INOKULASI RHIZOBIUM TERHADAP
PERTUMBUHAN DAN PEMBENTUKAN
BINTIL AKAR SEMAI LAMTORO PADA TANAH ALFISOL DAN ENTISOL
DHIMAS KHAIRUMAN B, Dr. Dra. Winastuti Dwi Atmanto, M.P.; Dr. Ir. Handojo Hadi N., M.Agr.Sc.

Universitas Gadjah Mada, 2021 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Yuwono, N. W., dan Rosmarkam, A. 2002. *Ilmu Kesuburan Tanah*. Penerbit Kanisius. Yogyakarta.

Zaharah, A.R., Sharifuddin, H.A., Anular, R., Bah, A.R., Mwange, K.N., Kathuli, P. and Juma, P., 1998. Nitrogen fixation by Gliricidia sepium: decomposition of its leaves in soil and effects on sweet-corn yields. IAEA. p., 199.