

DAFTAR PUSTAKA

- Adinugraha, H. A., & Fauzi, M. A. (2015). Pertumbuhan klon jati asal cepu dan madiun umur 10 tahun pada lahan berbatu di Gunung Kidul. *Jurnal Hutan Tropis*, 3(3), 253-259.
- Anna, N., Siregar, I. Z., Supriyanto, S., Karlinasari, L., & Sudrajat, D. J. (2018). Keragaman Genetik Pertumbuhan dan Hubungannya dengan Penetrasi Pilodyn pada Uji Provenansi-Keturunan Jabon (*Neolamarkcia cadamba* (Roxb) Bosser) di Parung Panjang, Bogor). *Jurnal Ilmu dan Teknologi Kayu Tropis*, 16(2), 159-176.
- Ariyantoro, H. (2006). *Budidaya Tanaman Kehutanan*. Yogyakarta (ID): PT. Citra Aji Parama.
- Bechtold WA. (2003). Crown-diameter prediction models for 87 species of stand grown trees in the Eastern United States. *Southern Journal of Applied Forestry* 27(4):269-278.
- Berrocal, A., Gaitan-Alvarez, J., Moya, R., Fernández-Sólis, D., & Ortiz-Malavassi, E. (2020). Development of heartwood, sapwood, bark, pith and specific gravity of teak (*Tectona grandis*) in fast-growing plantations in Costa Rica. *Journal of forestry research*, 31, 667-676.
- Bratawinata. (1988). Beberapa Contoh Pohon – Pohon Tanaman Industri Cepat Tumbuh, Universitas Mulawarman Samarinda.
- Budiadi, W., Prianto, S. D., & Kurniawan, W. A. (2012). Early growth response of an improved teak stand after thinning and pruning practices. In *Proceedings of international conference on new perspectives of tropical forest rehabilitation for better forest functions and management*. Yogyakarta (pp. 211-213).
- Budiadi, Widiyatno, & Ishii, H. (2017). Response of a clonal teak plantation to thinning and pruning in Java, Indonesia. *Journal of Tropical Forest Science*, 44-53.
- Campoe OC, Stape JL, Nouvellon Y, Laclau JP, Bauerle WL, Binkley D, Le Maire G. (2013). Stem production, light absorption and light use efficiency between dominant and non-dominant trees of *Eucalyptus grandis* across a productivity gradient in Brazil. *Forest Ecology and Management*, 288:14–20.
- Cardoso, D. J., Lacerda, A. E. B., Rosot, M. A. D., Garrastazú, M. C., & Lima, R. T. (2013). Influence of spacing regimes on the development of loblolly pine (*Pinus taeda* L.) in Southern Brazil. *Forest Ecology and management*, 310, 761-769.
- Chianucci F, Cutini A. (2012). Digital hemispherical photography for estimating forest canopy properties: current controversies and opportunities. *iForest* 5: 290-295. - doi: 10.3832/for0775-005

- Clark III, A., Jordan, L., Schimleck, L., & Daniels, R. F. (2008). Effect of initial planting spacing on wood properties of unthinned loblolly pine at age 21. *Forest Products Journal*, 58(10).
- Contreras, M.A., Afleck, D., dan Chung, W. (2011). Evaluating Tree Competition Indices as Predictors of Basal Area Increment in Western Montana Forest. *Forest Ecology and Management* 262: 1939-1949.
- Daniel, T.W., J.A. Helms and F.S. Baker. (1979). Principles of silviculture, 2nd Edn. McGraw-Hill, New York, 500 p
- Dharmawan, I. W. E. (2020). Hemispherical Photography: analisis tutupan kanopi komunitas mangrove. *Nas Media Pustaka. Makassar*.
- Diaconu D, Kahle HP, Spiecker H. (2015). Tree-and stand-level thinning effects on growth of European Beech (*Fagus sylvatica* L.) on a Northeast-and a Southwest-facing slope in Southwest Germany. *Forest*. 6(12):3256–3277.
- Evans, J. (1992). *Plantation forestry in the tropics: tree planting for industrial, social, environmental, and agroforestry purposes*. Oxford University Press, USA.
- Faridah E dan Widiyatno. (2011). Laporan Akhir Tahun III: Uji Klon Jati. Fakultas Kehutanan UGM. Yogyakarta.
- Fauzi, M. A., Hasna, T. M., Setiadi, D., & Adinugraha, H. A. (2020). Variasi Morfologi Empat Spesies Jati (*Tectona* Sp) di Asia Tenggara: Potensi Pemuliaan Pohon dan Bioteknologinya. *Biota: Jurnal Ilmiah Ilmu-Ilmu Hayati*, 115-123.
- Fauzi, M.A., Mahfudz., Pudjiono, S., Hamdan, A.A., Hasna, T.M., Wibowo, A., Setiadi, D., & Rimbawanto, A. (2014). *Beberapa Jenis Jati (Tectona sp), Variasi dan Potensi Pemuliaannya*. Balai Besar Penelitian dan Pengembangan Bioteknologi dan Pemuliaan Tanaman Hutan. Jakarta: Pusat Data dan Informasi KLHK.
- Fox, T. R. (2000). Sustained productivity in intensively managed forest plantations. *Forest Ecology and Management*, 138(1–3), 187–202. [https://doi.org/10.1016/S0378-1127\(00\)00396-0](https://doi.org/10.1016/S0378-1127(00)00396-0)
- Gerrand, A. M., Neilsen, W. A., & Medhurst, J. L. (1997). Thinning and pruning eucalypt plantations for sawlog production in Tasmania. *Tasforests*, 9, 15-34.
- G. Sibomana, F. B. S. Makonda, R. E. Malimbwi, S. A. O. Chamshama, and S. Iddi. (1997). Effect of spacing on performance of teak at Longuza, Tanga, Tanzania. *Journal of Tropical Forest Science*, vol. 10, no. 2, pp. 176–187.
- Hadiyan, Y. (2009). Keragaman pertumbuhan uji keturunan jati (*Tectona grandis* LF) umur 5 tahun di Ciamis, Jawa Barat. *Jurnal Pemuliaan Tanaman Hutan*, 3(2), 95-102.
- Haninec, P., Petr, M., Martin, S., Hana, H., Martin, S., Lubos, U., Milan, R., Jindrich., Josef, C., Katerina, N., & Radek. (2016). Assessment of teak production characteristics using 1 m spacing in a plantation in Nicaragua. *Bois Et Forets Des Tropiques*, 300(4), 37-48.
- Hardjodarsono. (1984). Jati. Cetakan ke-4. Yayasan Pembina Fakultas Kehutanan UGM, Yogyakarta
- Hardjowigeno, S. (1995). *Ilmu Tanah*. Jakarta: Akademika Pressindo.

- Hegy, F. (1974). A simulation model for managing jack-pine stands. In Fries, J. (Ed.), *Growth models for tree and stand simulation*. Stockholm: Royal College of Forestry.
- Heyne K. (1987). *Tumbuhan Berguna Indonesia II*. Jakarta (ID): Badan Litbang Kehutanan.
- Isaac-Renton, M., Stoehr, M., Statland, C. B., & Woods, J. (2020). Tree breeding and silviculture: Douglas-fir volume gains with minimal wood quality loss under variable planting densities. *Forest ecology and management*, 465, 118094.
- Iskak, M. (2005). Productivity of teak clonal plantation within the next 20 years. *Seperempat Abad Pemuliaan Jati Perum Perhutani. Pusat Pengembangan Sumber Daya Hutan. Perum Perhutani, Cepu. (In Indonesian with English abstract)*, 28-34.
- Jha, K. K. (2016). What should be the rotation age and harvest management in teak. *Indian Forester*, 142(4).
- Kanninen M, Perez D, Montero M, Viquez E. (2004). Intensity and timing of the first thinning of *Tectona grandis* plantation in Costa Rica: results of thinning trial. *Forest Ecology and Management*. 203(1–3):89–99.
- Kesuma, R. A., Kustanti, A., & Hilmento, R. (2016). Pertumbuhan Riap Diameter Pohon Bakau Kurap (*Rhizophora mucronata*) Di Lampung Mangrove Center Diameter Increment Growth of Bakau Kurap (*Rhizophora mucronata*) In Lampung Mangrove Center. *Jurnal Sylva Lestari ISSN*, 4(3), 97-106.
- Kollert, W., & Kleine, M. (2017). *The global teak study: Analysis, evaluation and potential of teak resources*. Vienna: IUFRO World Series Volume 36. Retrieved from <https://www.iufro.org/uploads/media/ws36.pdf>
- Kramer PJ. dan Kozlowsky TT. (1979). *Physiology of woody plants*. Academic Press.
- Kurniawan, H. (2010). Evaluasi Pertumbuhan Tanaman Uji Keturunan Jati (*Tectona grandis* Lf) Menggunakan Analisis Multikriteria. *Widyariset*, 13(3), 77-85.
- Kurniawan, H. (2012). Strata Tajuk dan Kompetisi Pertumbuhan Cendana (*Santalum album* Linn.) di Pulau Timor. *Jurnal Penelitian Kehutanan Wallacea*, 1(2), 103-115.
- Lacret, R., Varela, R. M., Molinillo, J. M. G., Nogueiras, C., & Macias, F. A. (2012). Tectonoelins, ew or lignans from a bioactive extract of *Tectona grandis*. *Phytochemistry Letters*, 5, 382–385.
- Lederman, T dan Stage, A.R. (2001). Effect of Competitor Spacing in Individual Tree Indices of Competition. *Journal of Forest Research* 31: 2143-2150.
- Leksono, B. (2016). Silvikultur intensif untuk pembangunan hutan tanaman energi: Prospek dan teknik silvikultur nyamplung. *Calophyllum inophyllum*, 01-15.
- Lukmandaru, G. (2011). Variability in the natural termite resistance of plantation teak wood and its relationship with wood extractive content and color properties. *Indonesian Journal of Forestry Research*, 8(1), 17–31.

- Lukmandaru, G.; K. Takahashi. (2008). Variation in the Natural Termite Resistance of Teak (*Tectona grandis* L. f.) Wood as a Function of Tree Age. *Annals of Forest Science* 65(7): 708p1-8.
- Marjenah. (2003). Hubungan antara jarak tanam dengan tinggi dan diameter tanaman jati (*Tectona grandis* L.f.) di Kalimantan Timur. Rimba Kalimantan. Fakultas Kehutanan Unmul, halaman 21-26.
- Marsoem, S. N., Prasetyo, V., Sulisty, J., Sudaryono, & Lukmandaru, G. (2014). Studi mutu kayu jati di hutan rakyat Gunungkidul III. Sifat fisika kayu. *Jurnal Ilmu Kehutanan*, 8(2), 75–88.
- Martawijaya A. Kartasujana I. Kadir K. Prawira SA. (1981). *Atlas Kayu Indonesia Jilid I*. Bogor (ID): Balai Penelitian dan Pengembangan Departemen Kehutanan.
- Mawardi P. (2012). *Kaya dari Investasi Jati Barokah*. PT Agro Media Pustaka, Jakarta.
- Medeiros RA, de Paiva HN, Soares AA, da Cruz JP, Leite HG. (2017). Thinning from below: effects on height of dominant trees and diameter distribution in Eucalyptus stands. *J Tropis For Sci*. 29(2):238–247.
- Meng SX, Leiffers VJ, Huang S. (2007). Modeling crown volume of lodgepole pine based upon uniform stress theory. *Forest Ecol. and Managemet* (251): 174-181.
- Murtinah, V., Marjenah, A. R., & Ruhayat, D. (2015). Pertumbuhan hutan tanaman jati (*Tectona grandis* Linn. f.) di Kalimantan Timur. *Agrifor: Jurnal Ilmu Pertanian dan Kehutanan*, 14(2), 287-292.
- Muslich, M., & Hadjib, N. (2010). Peningkatan Pemanfaatan Jati Plus Perhutani (Jpp) Untuk Kayu Lamina. *Jurnal Penelitian Hasil Hutan*, 28(3), 263-277.
- Na'iem, M. (2000). Early performance of clonal tests of teak. In E. B. Hardiyanto (Ed.), *Third regional seminar on teak. Potential and opportunities in marketing and trade of plantation teak: Challenge for the new millenium* (pp 217–275). Faculty of Forestry Universitas Gadjah Mada.
- Naiem, M. (2005). Upaya Peningkatan Kualitas Hutan Jati Rakyat. Dalam Mahfudz, Mirsatmanto A, dan Fauzi MA (eds). *Prosiding Pertemuan Forum Komunitas Jati IV: Pengembangan Benih Jati Unggul untuk Peningkatan Produktivitas Hutan Rakyat*.
- Naiem M. (2012). Peningkatan produktivitas hutan berbasis silvikultur intensif (SILIN): strategi efisiensi penggunaan kawasan hutan). Pp 162-183 in Nugraha A et al. (eds) *Darurat Hutan Indonesia, Mewujudkan Arsitektur Baru Kehutanan Indonesia*. Wana Aksara, Banten.
- Noordwijk, M. van, Lawson, G., Hairiah, K., & Wilson, J. (2015). Root distribution of trees and crops: competition and/or complementarity. *Tree-Crop Interactions: Agroforestry in a Changing Climate*, 221–257.
- Novendra I. Y. (2008). Karakteristik Biometrik Pohon Jati (*Tectona grandis* L.f.) Studi Kasus di Bagian Hutan Bancar KPH Jatinegoro Perum Perhutani Unit II Jawa Timur [Skripsi]. Bogor (ID): Institut Pertanian Bogor.

- Nyland, R.D. (2001). *Forestry and silviculture in the Northeast—Past, present, and the probable future*. P. 319 –325 in A monumental event. Proc Soc. Am. For. 2000 Natl. Conv., November 16 –20, 2000, Wash., DC. Soc. Am. For., Washington, DC.
- Nyland, R.D. (2002). *Silviculture: Concepts and Applications*. 2nd Ed. McGraw-Hill Book Co., New York. 682 p.
- Ola-Adams. (1990). Influence of Spacing on Growth and Yield of *Tectona grandis* LINN. F. (teak) and *Terminalia superba* Engl. & Diels (Afara). *Journal of Tropical Forest Science*, 2(3), 180-186.
- Oladele, A. T., Popoola, L., & Jimoh, S. O. (2012). Effects of teak canopy cover and NPK fertilizer application on growth of ginger in agroforestry trial, Ile-Ife, Nigeria. *Journal of Agriculture and Social Research (JASR)*, 12(2), 147-157.
- Pandey, D., & Brown, C. (2000). Teak: A global review. *Unasylva*, 51(201), 3-13.
- Pasaribu G. Sisilia L. (2012). Peningkatan Mutu Kayu Jati (*Tectona grandis*) Hasil Penjarangan asal Kabupaten Cianjur. Bogor J. Tengkawang; 2(1): 27-37.
- Pérez, D., & Kanninen, M. (2005). Effect of thinning on stem form and wood characteristics of teak (*Tectona grandis*) in a humid tropical site in Costa Rica. *Silva Fennica*, 39(2), 217–225. <https://doi.org/10.14214/sf.385>
- Perhutani. (2014). *Statistik Perum Perhutani 2009– 2013*. Jakarta: Perum Perhutani.
- Perum Perhutani. (2012). Pemantapan Prospek Bisnis Menuju Perhutani Ekselen. Laporan Tahunan. Perum Perhutani. Jakarta.
- Pradita, M. E. (2022). *Pengaruh Penjarangan terhadap Indeks Kompetisi, Pertumbuhan, dan Kualitas Kayu Tegakan Tinggal Jati Klon Tujuh Tahun setelah Penjarangan di KPH Ngawi* (Doctoral dissertation, Universitas Gadjah Mada).
- Pramono, A.A., Fauzi, M.A., Widyani, N., Heriansyah, I. dan Roshetko, J.M. (2010). *Pengelolaan Hutan Jati Rakyat: Panduan Lapangan untuk Petani*. Bogor: CIFOR.
- Prehaten, D., Hardiwinoto, S., Naâ, M., Supriyo, H., Widiyatno, W., & Rodiana, D. (2021). Productivity of arrowroots and taro grown under superior teak clones with several levels of stand density. *Biosaintifika: Journal of Biology & Biology Education*, 13(1), 51-57.
- Prehaten, D., Na'iem, M., & Hardiwinoto, S. (2018). Produktivitas Perhutanan Klon Jati Unggul pada Beberapa Jarak Tanam. *Prosiding Seminar Nasional Biologi dan Pendidikan Biologi: Penelitian, Penerapan dan Pembelajaran Biologi dalam Menghadapi Tantangan Abad 21*, 2018, p. 226 - 232.
- Pretzsch H, Biber P, Uhl E, Dahlhausen J, Rötzer T, Caldentey J, Koike T, Con T, Chavanne A, Seifert T, Toit B, Farnden C, Pauleit S. (2015). Crown size and growing space requirement of common tree species in urban centres, parks, and forests. *Urban Forestry & Urban Greening* 14(3):466-479.

- Rahmawati, R. B., Hardiwinoto, S., Amin, Y., & Hasanusi, H. (2021). Space planting, competition, and productivity of a seven-year-old clonal teak plantation in the East Java Monsoon Forest Area. *Jurnal Manajemen Hutan Tropika*, 27(2), 123-131.
- Rahmawati, R. B., Hardiwinoto, S., & Wibowo, A. (2024). Productivity of Clonal Teak Plantation Under Different Spacing and Thinning Intensity in Java Monsoon Forest. In IOP Conference Series: Earth and Environmental Science (Vol. 1299, No. 1, p. 012004). IOP Publishing.
- Rahmawati, R. B., Widiyatno, W., Hardiwinoto, S., Budiadi, B., Nugroho, W. D., Wibowo, A., & Rodiana, D. (2022). Effect of spacing on growth, carbon sequestration, and wood quality of 8-year-old clonal teak plantation for sustainable forest teak management in Java Monsoon Forest, Indonesia. *Biodiversitas Journal of Biological Diversity*, 23(8).
- Roda J.M., P. Cadenè, P. Guizol, L. Santoso, dan A. U. Fauzan. (2007). *Atlas Industri Mebel Kayu di Jepara*. CIFOR. Bogor.
- Sadono, R. (2018). Prediksi Lebar Tajuk Pohon Dominan pada Pertanaman Jati Asal Kebun Benih Klon di Kesatuan Pemangkuan Hutan Ngawi, Jawa Timur. *Jurnal Ilmu Kehutanan*, 12(2), 127–141. <https://doi.org/10.22146/jik.40143>.
- Sadono, R. dan Silalahi, M.L. (2010). Penentuan Tingkat Kompetisi Tajuk Tegakan Jati Hasil Uji Keturunan Umur 11 Tahun di KPH Ngawi. *Jurnal Ilmu Kehutanan* 4(2): 80-86.
- Sadono R, Nirwanawati A, Murdjoko A, Santosa AB, Rachman I. (2014). Growing Space Estimation of Teak Through Dominant Family Approach at Progeny Trial in Ngawi Forest District. *Advances in Environmental Biology*, 8 (5): 1890-1896
- Seta, G. W., Widiyatno, Hidayati, F., & Na'iem, M. (2021). Impact of thinning and pruning on tree growth, stress wave velocity, and pilodyn penetration response of clonal teak (*Tectona grandis*) plantation. *Forest Science and Technology*, 17(2), 57-66.
- Sharma RP, Vacek Z, Vacek S. (2016). Individual tree crown width models for Norway spruce and European beech in Czech Republic. *Forest Ecology and Management* 366:208–220.
- Sibomana, G., Makonda, F.B.S., Malimbi, R.E., Chamshama, S.A.O., & Iddi, S. (1997). Effect of Spacing on Performance of Teak at Longuza, Tanga, Tanzania. *Journal of Tropical Forest Science*, 10(2), 176-187.
- Sitompul, S. M., & Guritno, B. (1995). Analisis pertumbuhan tanaman. *Universitas Gadjah Mada. Yogyakarta*.
- Soekotjo. (2009). *Teknik Silvikultur Intensif (SILIN)*. Yogyakarta: Universitas Gadjah Mada Press.
- Stewart H, Rohadi D, Schmidt DM, Race D, Dovita DA, Silvia D, Darisman A. (2020). Financial models for smallholder sengon and teak planting in the Pati district. Canberra (Australia): ACIAR.
- Sudomo, M. F. A., Hardiwinoto, S., Indrioko, S., Budiadi, B., Prehaten, D., & Wibowo, A. (2021). Respon Pertumbuhan Tanaman Jati Plus Perhutani Umur 11 Tahun Terhadap Intensitas Penjarangan Dan Tumpang Sari (Studi

- Kasus Di Bkph Begal Kph Ngawi, Perhutani Jawa Timur). *Jurnal Pemuliaan Tanaman Hutan*, 15(1), 13-23.
- Sumarni, G., & Muslich, M. (2008). Kelas awet jati cepat tumbuh dan jati konvensional pada berbagai umur pohon. *Jurnal Penelitian Hasil Hutan*, 26(4), 342-351.
- Supriatna, A. H., & Wijayanto, N. (2011). Pertumbuhan tanaman pokok jati (*Tectona grandis* Linn F.) pada hutan rakyat di Kecamatan Conggeang, Kabupaten Sumedang. *Jurnal Silvikultur Tropika*, 2(3), 130-135.
- Suryanto P, Tohari, Sabarnurdin MS. (2005). Dinamika sistem berbagi sumberdaya (*resources sharing*) dalam agroforestri: dasar pertimbangan penyusunan strategi silvikultur. *J Ilmu Pertanian* 12:165-178.
- Susanti, Pamoengkas, P., & Wibowo, C. (2018). Identifikasi Kesesuaian Lahan Untuk Jati (*Tectona grandis* Linn. f) di PT. Melapi Timber, Kalimantan Timur Identify Suitable Land for Jati (*Tectona grandis* Lf) in PT. Melapi Timber, East Kalimantan. *Journal of Tropical Silviculture*, 9(1), 31-36.
- Susila, I.W.W. (2009). Riap Hutan Tanaman Jati dan Cendana di Nusa Tenggara Timur. *Jurnal Penelitian Hutan Tanaman* 6(3): 157-185.
- Susila, I.W.W. (2010). Riap tegakan duabanga (*Duabanga moluccana* bl.) di Rarung. *Jurnal Penelitian dan Konservasi Alam*. 7(1):47—58.
- Valenzuela, H. (2011). Farm and Forestry Production and Marketing Profile for Ginger (*Zingiber officinale*) revised. In: Elevitch, C.R. (ed.). Specialty Crops for Pacific Island Agroforestry. Permanent Agriculture Resources (PAR), Honolulu, Hawai'i. <http://agroforestry.net/scps> (Retrieved Dec. 2011)
- Vigulu, V., Blumfield, T.J., Reverchon, F., Hosseini, B.S., & Xu, Z. (2019). Growth and yield of 5 years old teak and flueggea in single and mixed species forestry systems in the Solomon Islands. *New Forests*, 50(4), 629–642.
- Widiatmaka, Mediranto, A., & Widjaja, H. (2015). Karakteristik, klasifikasi tanah, dan pertumbuhan tanaman jati (*Tectona grandis* linn f.) var. unggul nusantara di Ciampea, Kabupaten Bogor. *Jurnal Pengelolaan Sumberdaya Alam dan Lingkungan (Journal of Natural Resources and Environmental Management)*, 5(1), 87-87.
- Wahyudi, I., Sinaga, D. K. D., & Jasni, L. B. (2014). Pengaruh jarak tanam terhadap pertumbuhan pohon dan beberapa sifat fisis-mekanis kayu jati cepat tumbuh. *Jurnal Ilmu Pertanian Indonesia*, 19(3), 204-210.
- White, K. J. (1991). Teak: Some Aspects of Research and Development, RAPA Publication 1991/17. Bangkok, FAO.
- Wiyono, Lestari, P., Hidayat, R., Oktalina, S. N., Utomo, S., Prasetyo, E., Ngadianto, A., & Nugroho, P. (2018). Penerapan teknik silvikultur intensif pada pengelolaan hutan rakyat di kabupaten gunungkidul. *Jurnal Pengabdian Dan Pengembangan Masyarakat*, 1(1), 57-70.

- Widiyanto, A. (2015). Pengaruh Teknik Silvikultur Terhadap Kualitas Kayu
- Yahya, A., Saaiffudin, K. A., & Noor, H. M. (2011). Growth response and yield of plantationgrown teak (*Tectona grandis*) after low thinning treatments at Pagoh, Peninsular Malaysia. *Journal of Tropical Forest Science*23(4), 453–459.
- Zahabu, E., Tumaini, R., Shabani, A., Omari, C., Iddi, S., & Rogers, E. (2015). Effect of Spacing Regimes on Growth, Yield, and Wood Properties of *Tectona grandis* at Longuza Forest Plantation, Tanzania. *International Journal of Forestry Research*, 2015, 1-6. doi: [10.1155/2015/469760](https://doi.org/10.1155/2015/469760).