

DAFTAR PUSTAKA

- Aasmi, A.A., Alordzinu, K.E., Li, J., Lan, Y., Appiah, S.A., Qiao, S. 2022. Rapid Estimation of Water Stress in Choy Sum (*Brassica chinensis* var. *parachinensis*) Using Integrative Approach. *Sensors* Vol. 22, 1695 : 1-17.
- Adhikari, J., Sarkar, A. R., Uddin, M. R., Sarker, U. K., Hossen, K., & Rosemila, U. 2018. Effect of nitrogen fertilizer and weed management on the yield of transplant aman rice. *Journal of the Bangladesh Agricultural University* Vol. 16(1) : 12–16.
- Agustina, C., A. Widiastuti, C. Sumardiyono. 2016. Pengaruh stomata dan klorofil pada ketahanan beberapa varietas padi terhadap penyakit bulai. *Jurnal Perlindungan Tanaman Indonesia* 20(2): 89-94.
- Alam, M.M., Ladha, J.K., Rahman, K.S., Foyjunnessa, Harun-ur-Rashid, Khan, A.H., Buresh, R.J. 2005. Leaf color chart for managing nitrogen fertilizer in lowland rice in Bangladesh. *Agron. J.* 97: 949–959.
- Aniya, A. O., and H. Herzog. 2004. Water use efficiency, leaf area and leaf gas exchange of cowpeas under midseason drought. *European Journal of Agronomy* 20: 327–339.
- Anonim. 1977. Pedoman bercocok tanam Padi Palawija Sayur - sayuran. Departemen Pertanian Satuan Pengendali BIMAS. Jakarta.
- Anonim. 1996. *Vademecum Teh*. PT Perkebunan Nusantara IV, Medan.
- Anonim. 2005. *Petunjuk Teknis : Analisis Kimia Tanah, Tanaman, Air, Dan Pupuk*. Balai Penelitian Tanah. Badan Penelitian dan Pengembangan Pertanian. Departemen Pertanian. Bogor.
- Anonim. 2007. Acuan Penetapan Rekomendasi Pupuk N, P, dan K pada Lahan Sawah Spesifik Lokasi (Per Kecamatan). Kementerian Pertanian. Permentan No. 40/Permentan/ OT. 140/ 04/ 2007.
- Anonim. 2009. *Budidaya Tanaman Padi*. Badan Ketahanan Pangan Dan Penyuluh Pertanian Aceh dan Balai Pengkajian Teknologi Pertanian NAD. <http://nad.litbang.pertanian.go.id/ind/images/dokumen/modul/10-Budidaya-padi.pdf>. Diakses 27 Februari 2020.
- Asefa, G. 2019. The Role of Harvest Index in Improving Crop Productivity: A Review. *Journal of Natural Sciences Research* Vol. 9 (6) : 24-28.
- Azarpour, E., Maral, M., dan Hamid, RB. 2014. Effect of nitrogen fertilizer management on growth analysis of rice cultivars. *International Journal of Biosciences* Vol. 7 (5) : 35-47.
- Bollinder, M.A., Angers, D.A., Belanger, G., Michaud, R., dan Lavadiere, M.R., 2002. Root biomass and shoot to root ratios of perennial forage crops in eastern Canada. *Can. J. Plant Sci.* 82, 731–737.

- Chu, G., Song, C., Chunmei, X., Danying, W., dan Xiufu, Z. 2019. Agronomic and physiological performance of indica/japonica hybrid rice cultivar under low nitrogen conditions. *Field Crops Research* 243 : 1-10.
- Djaenuddin, D., Marwan, H., Subagyo, H., Mulyani, A. dan Suharta, N. 2003. Kriteria Kesesuaian Lahan Untuk Komoditas Pertanian. Pusat Penelitian Tanah dan Agroklimat. Badan Penelitian dan Pengembangan Pertanian : Bogor.
- Djaenudin, D., Marwan, H., Subagjo, H., dan A. Hidayat. 2011. Petunjuk Teknis Evaluasi Lahan Untuk Komoditas Pertanian. Balai Besar Litbang Sumberdaya Lahan Pertanian, Badan Litbang Pertanian, Bogor. 36p.
- Dobermann, Achim, and Thomas Fairhurst. 2000. Rice: Nutrient Disorders & Nutrient Management. Handbook Series.
- Erythrina. 2016. Bagan Warna Daun: Alat Untuk Meningkatkan Efisiensi Pemupukan Nitrogen Pada Tanaman Padi. *J. Litbang Pert.* Vol. 35 (1) : 1-10.
- Fageria, N.K. 2007. Yield Physiology of Rice. *Journal of Plant Nutrition* Vol. 30 (6) : 843–879.
- Fageria, N. K., dos Santos, A. B., & Coelho, A. M. (2011). Growth, yield and yield components of lowland rice as influenced by ammonium sulfate and urea fertilization. *Journal of Plant Nutrition*, 34(3), 371–386.
- Fatehjeet, S., Kang, J.S., Avtar, S., dan Thakar, S. 2017. Productivity of Mechanically Transplanted Rice (*Oryza sativa* L.) as Influenced by Time of Nitrogen Application. *Indian Journal of Ecology* Vol. 44 (Special Issue-5):569-573.
- Ferrante, A., & Mariani, L. 2018. Agronomic Management for Enhancing Plant Tolerance to Abiotic Stresses: High and Low Values of Temperature, Light Intensity, and Relative Humidity. *Horticulturae*, 4(21) : 1-19.
- Fritschi, F. B., J. D. Ray. 2007 Soybean leaf nitrogen, chlorophyll content, and chlorophyll a/b ratio. *Photosynthetica* 45 : 92-98.
- Fu, P., Jing, W., Tong, Z., Jianliang, H., dan Shaobing, P. 2019. High nitrogen input causes poor grain filling of spikelets at panicle base of super hybrid rice. *Field Crops Research* 244 : 1-9.
- Gardner, F.P., Pearce, R.B., & mitchell, R.L. 1985. *Physiology of Crop Plants*. Iowa State University. Ames Press.
- Gholizadeh, A., Mohd, A. M. S., Anuar, A. R., dan Aimrun, W. 2011. Using Soil Plant Analysis development chlorophyll meter for two growth stages to assess grain yield of malaysian rice (*Oryza sativa*). *American Journal of Agricultural and Biological Sciences* Vol. 6 (2) : 209-213.
- Gholizadeh, A., Saberioon, M., Borůvka, L., Wayayok, A., & Mohd Soom, M. A. 2017. Leaf chlorophyll and nitrogen dynamics and their relationship to lowland rice yield

- for site-specific paddy management. *Information Processing in Agriculture*, 4(4), 259–268.
- Ghoneim, A.M., Gewaily, E.E., & Osman, M.M.A. 2018. Effects of Nitrogen Levels on Growth, Yield And Nitrogen use Efficiency Of Some Newly Released Egyptian Rice Genotypes. *Open Agriculture* Vol. 3(1) : 310–318.
- Hendriyani, I.S., & Nintya, S. 2009. KANDUNGAN KLOOROFIL DAN PERTUMBUHAN KACANG PANJANG (*Vigna sinensis*) PADA TINGKAT PENYEDIAAN AIR YANG BERBEDA. *Jurnal Sains & Matematika* Vol. 17 (3) : 145-150.
- Huang, Jianliang, Fan He, Kehui Cui, Roland J. Buresh, Bo Xu, Weihua Gong, and Shaobing Peng. 2008. “Determination of Optimal Nitrogen Rate for Rice Varieties Using a Chlorophyll Meter.” *Field Crops Research* Vol. 105 (1-2) : 70-80.
- Intaravanne, Y. and. S. Sumriddetchkajorn. 2015. Android-based rice leaf color analyzer for estimating the needed amount of nitrogen fertilizer. *Computers and Electronic in Agriculture* 116 : 228-233.
- Jaisyurahman, U., Desta, W., Trikoesoemaningtyas, T., & Heni, P. 2020. Dampak Suhu Tinggi terhadap Pertumbuhan dan Hasil Tanaman Padi. *Jurnal Agronomi Indonesia (Indonesian Journal of Agronomy)*, 47(3), 248-254.
- Jemison, J. M., and R. H. Fox. 1988. A quick-test procedure for soil and plant tissue nitrates using test strips and a hand-held reflectometer 1. *Communications in Soil Science and Plant Analysis* 19 : 1569–82.
- Kasno, A., Rostaman, T., & Setyorini, D. 2016. Peningkatan produktivitas lahan sawah tadah hujan dengan pemupukan hara N , P , dan K dan penggunaan padi varietas unggul. *Jurnal Tanah dan Iklim* Vol. 40(2) : 147–57
- Kerk N. & Feldman L. 1994. The quiescent center in the roots of maize: initiation, maintenance and role in organization of the root apical meristem. *Protoplasma* 183, 100– 106.
- Kogoya, T., Putu, I.D., & Nyoman, I.S. 2018. Pengaruh Pemberian Dosis Pupuk Urea terhadap Pertumbuhan Tanaman Bayam Cabut Putih (*Amaranthus tricolor* L.). *E-Jurnal Agroekoteknologi Tropika* Vol. 7 (4) : 575-584.
- Konstantopoulou, E., Georgios, K., Georgios, S., Spyridon, A. P., Eleni, C., Ioannis, C. K. dan Harold, C. P. 2012. “Effect of Nitrogen Application on Growth Parameters, Yield and Leaf Nitrate Content of Greenhouse Lettuce Cultivated during Three Seasons.” *Journal of Plant Nutrition* Vol. 35(8) : 1246-1254.
- Kuswanto. 2007. *Teknologi Pemrosesan Pengemasan dan Penyimpanan Benih*. Kanisius. Yogyakarta.

- Laborte, Alice G., Kees C.A.J.M. de Bie, Eric M.A. Smaling, Piedad F. Moya, Anita A. Boling, and Martin K. Van Ittersum. 2012. "Rice Yields and Yield Gaps in Southeast Asia: Past Trends and Future Outlook." *European Journal of Agronomy* Vol. 36(1) : 9 – 20.
- Leghrari, S.J., Niaz, A.W., Ghulam, M.L., Abdul, H.L., Ghulam, M.B., Khalid, H.T., Toufique, A.B., Safdar, A.W., dan Ayaz, A.L. 2016. Role of nitrogen for plant growth and development: a review. *Advances Environmental Biology* Vol. 10 (9) : 209-218.
- Li, X., Qian, Q., Zhiming, F., Yonghong, W., Guosheng, X., Dali, Z., Xiaoqun, W., Xinfang, L., Sheng, T., Fujimoto, H., Ming, Y., Da, L., Bin, H., dan Jiayang, L. 2003. Control of tillering in rice. *Journal Nature* Vol. 422 : 618-621.
- Li, M., Hongcheng, Z., Xiong, Y., Mengjie, G., Qun, M., Haiyan, W., Qigen, D., Zhongyang, H., Ke, X., and Deqiang, L. 2014. "Accumulation and Utilization of Nitrogen, Phosphorus and Potassium of Irrigated Rice Cultivars with High Productivities and High N Use Efficiencies." *Field Crops Research* Vol. 161 : 55-63.
- Lombard, K., Mick, O., John, M., April, U., Blake O., Greg, B., dan Robert, H. 2010. Can soil plant analysis development values predict chlorophyll and total Fe in hybrid poplar?. *Agroforest Systems* Vol. 78 : 1-11.
- Makarim, AK., dan Suhartatik, E. 2009. Morfologi dan Fisiologi Tanaman Padi. <http://www.google.com/url?litbang.deptan.go.id%spesial%padi2009>. Diakses 27 Februari 2020.
- Markwell, J., J. C. Osterman, and J. L. Mitchell. 1995. Calibration of the Minolta SPAD-502 leaf chlorophyll meter. *Photosynthesis Research* 46 : 467–72.
- Nguy-Robertson A., Y. Peng, T. Arkebauer, D. Scooby, J. Schepers, dan A. Gitelson. 2015. Using a simple leaf color chart to estimate leaf and canopy chlorophyll a content in maize (*Zea mays*). *Communication in Soil Science and Plant Analysis* 1-12.
- Nurhermawati, R., Iskandar, L., dan Ahmad, J. 2021. Respon karakter pengisian biji dan hasil terhadap pemberian pupuk urea pada empat varietas padi. *Jurnal Agronomi Indonesia* Vol. 49 (3):235-241.
- Panda, D., Nayak, A.K., dan Mohanty, S. 2019. Nitrogen management in rice. *Oryza* Vol. 56 (Special Issue):125-135.
- Pareek, P.K., Bhatnagar, P., & Subhash, C. 2017. Effect of nitrogen and vermicompost interaction on growth and development of kinnow mandarin in vertisols of jhalawar district. *Chemical Science Review and Letters* Vol. 6 (23) : 1555-1560.
- Peng, S., Buresh, R.J., Huang, J., Zhong, X., Zou, Y., Yang, J., Wang, G., Liu, Y., Hu, R., & Tang, Q. 2010. Improving nitrogen fertilization in rice by sitespecific N management. A review. *Agron. Sustain. Dev.* Vol. 30 : 649–656.

- Peng S, Garcia FV, Laza RC, Sanico AL, Visperas RM, Cassman KG. 1996. Increased N-use efficiency using a chlorophyll meter on high-yielding irrigated rice. *Field Crops Res.* 47:243–252.
- Pommerening, A., dan Anders, M. 2015. Methods of modelling relative growth rate. *Forest Ecosystems Vol. 2 (5) : 1-9.*
- Prabowo, R. Y., Rahmadwati, dan P. Mudjirahardjo. 2018. Klasifikasi kandungan nitrogen berdasarkan warna daun melalui color clustering menggunakan metode fuzzy C means dan hybrid PSO K-means. *Jurnal EECCIS* 12(1): 1-8.
- Prakoso, D.I., Indradewa, D., & Sulistyaningsih, E. 2018. Pengaruh Dosis Urea terhadap Pertumbuhan dan Hasil Kedelai (*Glycine max* L. Merr.) Kultivar Anjasmoro. *Jurnal Vegetalika Vol. 7 (3) : 16-29.*
- Purwanto, I., Eti, S., dan Edi, S. 2015. Menghitung Takaran Pupuk Untuk Percobaan Kesuburan Tanah. *Juknis Kesuburan. Balai Penelitian Tanah, Badan Penelitian dan Pengembangan Pertanian, Departemen Pertanian.*
- Radford, P.J. (1967) Growth Analysis Formulae: Their Use and Abuse. *Crop Science*, 7, 171-175.
- Rasheed, M.W., Tang, J., Sarwar, A., Shah, S., Saddique, N., Khan, M.U., Imran Khan, M., Nawaz, S., Shamshiri, R.R., Aziz, M., Sultan, M. 2022. Soil Moisture Measuring Techniques and Factors Affecting the Moisture Dynamics: A Comprehensive Review. *Sustainability*, 14, 11538.
- Reich, P. B. 1998. Variation among plant species in leaf turnover rates and associated traits: Implications for growth at all life stages. In: *Inherent Variation in Plant Growth, Physiological Mechanisms and Ecological Consequences*, eds. H. Lambers, H. Poorter, and M. M. I. Van Uuren, pp. 467–487. Leiden, Netherlands: Backhuys Publishers.
- Rina, D. 2015. Manfaat Unsur N, P, dan K Bagi Tanaman. BPTP Kaltim. http://kaltim.litbang.pertanian.go.id/ind/index.php?option=com_content&view=article&id=707&Itemid=59. Diakses 28 Februari 2020.
- Rosadi, NA. 2017. Pertumbuhan, Serapan Nitrogen Dan Hasil Padi Gogo Beras Merah (*Oryza Sativa* L.) Pada Tumpangsari Dengan Kacang Tanah (*Arachis Hypogaea* L.) Dan Kacang Hijau (*Vigna Radiata* (L) Wilczek). *Jurnal Valid Vol. 14 (1) : 19-31.*
- Runhayat, A. 2007. Penentuan Kebutuhan Pokok Unsur Hara N, P, K Untuk Pertumbuhan Tanaman Panili (*Vanilla planifolia* Andrews). *Bul. Littro. Vol. XVIII No. 1, 2007, 49 - 59.*
- Sandra., Damayanti, R., & Inayah, Z. 2020. Nitrogen Fertilizer Prediction of Maize Plant with TCS3200 Sensor Based on Digital Image Processing. *IOP Conference Series: Earth and Environmental Science*, 515(1).

- Saragih D., Herawati, H., & Niar, N. 2013. Pengaruh dosis dan waktu aplikasi pupuk urea dalam meningkatkan pertumbuhan dan hasil jagung (*zea mays* L.) pioneer 27. *Jurnal Agrotek Tropika* Vol. 1 (1) : 50-54.
- Sedo, Raimundus, Panca Mudjirahardjo, and Erni Yudaningtyas. 2019. “Klasifikasi Citra Warna Daun Padi Menggunakan Metode Histogram of S-RGB Dan Fuzzy Logic Berbasis Android.” *InfoTekJar (Jurnal Nasional Informatika Dan Teknologi Jaringan)* Vol. 3 (2) : 103 – 108.
- Setiawan, EB., dan Risa, H. 2018. Penggunaan Smartphone Android sebagai Alat Analisis Kebutuhan Kandungan Nitrogen pada Tanaman Padi. *JNTETI*. Vol. 7 (3) : 273-280.
- Shrestha, A., Dziwornu, A. K., Ueda, Y., Wu, L.-B., Mathew, B., & Frei, M. 2018. Genome-wide association study to identify candidate loci and genes for Mn toxicity tolerance in rice. *PLOS ONE*, 13(2).
- Sitompul S.M. dan Guritno B. 1995. Analisis Pertumbuhan Tanaman. UGM Press. Yogyakarta. 412 hal.
- Solangi M., Suthar V., Wagan B., Siyal A.G., Sarki A., & Soothar R.K. 2015. Evaluate the effect of nitrogen and phosphorus fertilizer doses on growth and yield of spinach (*Spinacia oleracea* L.). *Science International (Lahore)* Vol. 28(1): 379–383.
- Sonbai, JHH., Djoko, P., dan Abdul, S. 2013. Pertumbuhan Dan Hasil Jagung Pada Berbagai Pemberian Pupuk Nitrogen Di Lahan Kering Regosol. *Ilmu Pertanian*. Vol. 16 (1): 77 – 89.
- Sudhakar, P., Latha, P., dan Reddy, PV. 2016. Phenotyping Crop Plants for Physiological and Biochemical Traits. Academic Press.
- Suprihatno, B., Aan, A.D., Satoto S., Baehaki, S.E., Suprihanto, S., Agus, S., Dewi, S.I., Putu, I.W., dan Hasil, S. 2010. Deskripsi Varietas Padi. Subang. Balai Besar Penelitian Tanaman Padi.
- Syed, T.A., Liu, X., Lu, Z., Zheng, H., Cao, W., & Zhu, Y. 2017. Estimation of nitrogen fertilizer requirement for rice crop using critical nitrogen dilution curve. *Field Crops Research* Vol. 201 : 32–40.
- Taiz, L., & Zeiger, E. 2013. *Plant Physiology = Fisiologia Vegetal*. 5ed. Artmed, Porto Alegre, RS, Brazil.
- Tando, E. (2019). Upaya Efisiensi Dan Peningkatan Ketersediaan Nitrogen Dalam Tanah Serta Serapan Nitrogen Pada Tanaman Padi Sawah (*Oryza sativa* L.). *Buana Sains*, 18(2), 171.
- Taslim, H., Soetjipto, P., dan Subandi. 1989. Pemupukan Padi Sawah. Padi Buku ke-2. Pusat Penelitian dan Pengembangan Tanaman Pangan. Bogor.

- Tenorio, F.A., C. Ye, E. Redoña, S. Sierra, M. Laza, M.A. Argayoso. 2013. Screening rice genetic resources for heat tolerance. *SABRAO J. Breeding Gen.* 45:371-381.
- Triadiati., Akbar, AA., dan Sarlan, A. 2012. Pertumbuhan dan Efisiensi Penggunaan Nitrogen pada Padi (*Oryza sativa* L.) Dengan Pemberian Pupuk Urea yang Berbeda. *Buletin Anatomi dan Fisiologi*. Vol. 20 (2) : 1-14.
- Vergara, BS. 1990. Bercocok Tanam Padi. BAPPENAS. Jakarta.
- Vesali, F., M. Omid, A. Kaleita, H. Mobli. 2015. Development of an android app to estimate chlorophyll content of corn leaves based on contact imaging. *Computer and Electronics in Agriculture* 116 : 211-220.
- Xu, G., Ke-jie, L., He-Zheng, W., dan Ming-can, C. 2019. Influence of water management and nitrogen application on rice root and shoot traits. *Journal Agronomy* Vol. 111 (5) : 2232-2244.
- Yadav, S., Ibaraki, Y., Dutta Gupta, S., 2010. Estimation of the chlorophyll content of micropropagated potato plants using RGB based image analysis. *Plant Cell Tissue Organ Cult.* 100 : 183–188.
- Yoshida, S. 1981. *Fundamentals of Rice Crop Science*. Manila. IRRI.
- Yuan, L., Zhicheng, Z., Xiaochuang, C., Shengchao, Z., Xuan, Z., dan Lianghuan, W. 2014. Responses of rice production, milled rice quality and soil properties to various nitrogen inputs and rice straw incorporation under continuous plastic film mulching cultivation. *Field Crops Research* 155 : 164-171.
- Zamir, M.S.I., Ahmad, A.H., Javeed, H.M.R., dan Latif, T. 2011. Growth and yield behaviour of two maize hybrids (*Zea mays* L.) towards different plant spacing. *Cercetări Agronomice în Moldova*, vol. 44, no. 2, pp. 33–40.
- Zhang, K, Zhaofeng, Y., Tiancheng, Y., Zhenzhou, L., Qiang, C., Yongchao, T., Yan, Z., Weixing, C., and Xiaojun, L. 2020. Chlorophyll Meter–Based Nitrogen Fertilizer Optimization Algorithm and Nitrogen Nutrition Index for in-Season Fertilization of Paddy Rice. *Agronomy Journal* 112 (1) : 288–300.
- Zhang, J., Tong, T., Potcho, P. M., Li, L., Huang, S., Yan, Q., & Tang, X. 2021. Harvest Time Effects on Yield, Quality and Aroma of Fragrant Rice. *Journal of Plant Growth Regulation* Vol. 40 : 2249–2257.