



## DAFTAR PUSTAKA

- Adelya, D. 2019. Penerapan Sistem Kamera Pi dan Termal Amg 8833 untuk Pendektsian Objek. Laporan Tugas Akhir. Teknik Elektro dan Informatika, Sekolah Vokasi, Universitas Gadjah Mada Yogyakarta.
- Arief, M. A. A. 2020. Rekonstruksi Tiga-Dimensi (3D) pada Sistem Pengamatan Tumbuh Kembang Tanaman secara Non-Destruktif Menggunakan Metode Close-Range Photogrammetry. Skripsi. Teknik Pertanian dan Biosistem, Fakultas Teknologi Pertanian, Universitas Gadjah Mada, Yogyakarta.
- Badan Pusat Statistik 2022. [Seri 2010] *Laju Pertumbuhan PDB Seri 2010 (Persen)*.<https://www.bps.go.id/indicator/11/104/2/-seri-2010-laju-pertumbuhan-pdb-seri-2010.html>.
- Badan Pusat Statistik. 2022. *Laju Pertumbuhan Penduduk (Persen), 2020-2022*. <https://www.bps.go.id/indicator/12/1976/1/laju-pertumbuhan-penduduk.html>.
- Chastity, A. dan Rivai, M. 2020. Implementasi Kamera Thermal pada Pemadam Api Otomatis. *JURNAL TEKNIK ITS*, 9(1):138-143.
- Chicco, D., Warrens, M. J., & Jurman, G. 2021. The coefficient of determination R-squared is more informative than SMAPE, MAE, MAPE, MSE and RMSE in regression analysis evaluation. *PeerJ Computer Science*, 7: 1–24. <https://doi.org/10.7717/PEERJ-CS.623>
- Cooper, D.J., Sanderson, J.S., Stannard, D.I., Groeneveld, D.P., 2006. Effects Of Long-Term Water Table Drawdown On Evapotranspiration And Vegetation In An Arid Region Phreatophyte Community. *J. Hydrol.*, 325(1-4), 21–34.
- Costa, J.M., Grant,O.M., and Chaves, M.M. 2013. Thermography to Explore Plant-environment Interactions. *Journal of Experimental Botany*, 64(13):3937-3949.
- Deutsch, C.A., Tewksbury, J.J., Tigchelaar, M., Battisti, D.S., Merrill,S.C., Huey, R.B., and Naylor,R.L. 2018. Increase in Crop Losses to Insect Pests in a Warming Climate. *Science*, 361:916-919. doi: [10.1126/science.aat3466](https://doi.org/10.1126/science.aat3466).
- Djufri, F., Yanto, A., Handoko, dan Koesmaryon, Y. 2005. Pendugaan Defisit Air Tanaman Jarak (*Ricinus communis L*) Berdasarkan Model Simulasi Dinamika Air Tanah. *J. Agromet*, 19(2):1-12.
- Erdem, Y., Arin, L., Erdem, T., Polat, S., Deveci, M., Okursoy, H., Giiltas, H.T. 2010. Crop Water Stress Index for Assessing Irrigation Scheduling of Drip Irrigated Broccoli (*Brassica Oleracea L. Var. Italica*). *Agric. Water Manag.*,98(1):148-156.
- Gardner, B.R., Blad, B.L., Garrity, D.P., Watts, D.G. 1981. Relationships Between Crop Temperature, Grain Yield, Evapotranspiration And Phenological Development In Two Hybrids Os Moisture Stressed Sorghum, *Irrig. Sci*, 2(4):213:224.
- Gómez-Bellot, M. J., Nortes, P. A., Sánchez-Blanco, M. J., & Ortúñoz, M. F. 2015. Sensitivity of thermal imagingand infrared thermometry to detect water status changes in Euonymus japonica plants irrigated with saline reclaimed



- water. *Biosystems Engineering*, 133, 21–32.  
<https://doi.org/10.1016/j.biosystemseng.2015.02.014>
- Greenwaterdrone, 2023. *Crop Water Stress Index and Infrared Temperature*.  
Greenwaterdrone. <https://www.greenwaterdrone.eu/crop-water-stress-index>. Diakses pada 19 Mei 2023 pukul 19.25 WIB.
- Guo, Y.U., Zhao, H., Zhang, S., Wang, Y., Chow, D., 2021. Modeling Optimization of Environment in Agricultural *Greenhouses* for Improving Cleaner and Sustainable Crop Production. *J. Cleaner Prod*, 285.
- Hair, Jr., Joseph, F., et al. 2011. Multivariate Data Analysis. Fifth Edition. New Jersey: PrenticeHall, Inc.
- Handayani, W.H. 2023. Perancangan Alat *Automatic Water Level Monitoring System (AWLMS)* Tipe Long Range Ultrasonic Berbasis IoT Untuk Limpas Bendung. Skripsi. Teknik Pertanian dan Biosistem, Fakultas Teknologi Pertanian, Universitas Gadjah Mada.
- Hatfield, J.L., and Prueger, J.H. 2015. Temperature extremes: Effect on plant growth and development. *Weather and Climate Extremes*, 10:4-10.
- Huang, Y. J., Evans, N., Li, Z.Q., Eckert, M., Chevre, A. M., Renard, M., Fitt, B.D. 2006. Temperature and leaf wetness duration affect phenotypic expression of Rlm6-mediated resistance to Leptosphaeria maculans in Brassica napus. *New Phytologist*. 170:129-141.
- Irmak, S., Haman, D., Bastug, R. 2000. Determination of Crop Water Index for Irrigation Timing Yield Estimation Of Corn. *Agric. Meteorol*, 24:45-55.
- Jabnabillah, M. dan Marginia, N. 2022. Analisis Korelasi Pearson dalam Menentukan Hubungan Antara Motivasi Belajar dengan Kemandirian Belajar pada Pembelajaran Daring. *Jurnal Sintak*, 1(1):14-18.
- Jones and P Schofield. 2008. Thermal and Other Remote Sensing Of Plant Stress. *General and Applied Plant Physiology*, 34(1-2):19–32.
- Juan, Y., Yin, Z.J., Hailong, Y., Li Hua, T., Rui Juan, W. 2012. Mathematical Study Of The Effect Of Temperature And Humidity On The Mycelium Growth Of Pleurotus Eryngii. In: 2012 First International Conference On Agro-Geoinformatics (agro-geoinformatics), 1-5.
- Katimbo, A., Rudnick, A.R., Dejonge, K.C., Lo, T.H., Qiao, X., Franz, T.E., Nakabuye, H.N., and Duan, J. 2022. Crop Water Stress Index Coputation Approaches And Their Sensitivity To Soil Water Dynamics. *Agriculture Water Management*, 266: 107575.
- Khomarudin, M.R. & Sofan, P. 2006. Crop Water Stress (CWSI) Estimation Using MODIS Data. *Remote Sensing and Earth Sciences*, 3: 80-84.
- King, B.A., Shellie, K.C., Tarkalson, D.D., Levin, A.D., Sharma, V., Bjorneberg, D.L. 2020. Data-Driven Models For Canopy Temperature-Based Irrigation Scheduling. *Trans. ASABE*, 63(5):1579-1592.
- Khorsandi, A., Hemmat, A., Mireei, S.A., Amirfattahi, R., and Ehsanzadeh, P. 2018. Plant Temperature-Based Indices Using Infrared Thermography for Detecting Water Status in Sesame Under *Greenhouse* Conditions. *Agricultural Water Management*, 204:222-233.
- Kobza, J., Edwards, G.E., 1987. Influences of leaf temperature on photosynthetic carbon metabolism in wheat. *Plant Physiol* 83 (1): 69–74.



- Kusumawati, N.B. 2023. *Pengembangan Soil Moisture Content (SMC) Monitoring System Terintegrasi Cloud untuk Pengamatan Lengas Tanah dengan Variasi Kedalaman pada Perkebunan Kelapa Sawit*. Skripsi. Teknik Pertanian dan Biosistem, Fakultas Teknologi Pertanian, Universitas Gadjah Mada.
- Kutter, T., Tiemann, S., Siebert, R., and Fountas, S. 2011. The role of communication and co-operation in the adaption of precision farming. *Precision Agric*, 12: 2-17.
- Lakitan, B. 1996. *Fisiologi Pertumbuhan dan Perkembangan Tanaman*. PT. Raja Grafindo Persada, 218.
- Lisar, S.S.Y., Mutafakkerazad, R., Hossain, M.M., & Rahman, I.M.M. 2012. Water Stress in Plant: Causes, Effect and Responses. *Water Stress, June 2014*. <https://doi.org/10.5772/39363>.
- Liu, H., Meng,Z., and Cui,S. 2007. A Wireless Sensor Network Prototype for Environmental Monitoring in Greenhouses. *2007 International Conference on Wireless Communications, Networking and Mobile Computing, WiCOM 2007*, 2344-2347. <https://doi.org/10.1109/WICOM.2007.584>
- Mangus, D.L., Sharda, A., and Zhang, N. 2016. Development and Evaluation Of Thermal Infrared Imaging System for High Spatial And Temporal Resolution Crop Water Stress Monitoring Of Corn Within a Greenhouse. *Comput. Electron. Agric*, 121(20):149-159.
- Marcellis, L.F.M., Broekhuijsen, A.G.M., Meinen,E., Nijs,E., Raaphorst,M.G.M. 2005. Quantification of the Growth Response to Light Quality of Greenhouse Grown Crops. In: *V International Symposium on Artificial Lighting in Horticulture*, 711:97-104.
- Mona, A. M. B., Alandani, R., dan Arya, G.M., 2017. Thermal Vision pada Manusia dengan Pengaruh Terhadap Warna Pakaian. 5th Indonesian Symposium on Robotic System and Control (ISRSC 2017). Universitas Pendidikan Indonesia, Bandung.
- Mortensen, L.M. 2000. Effect of air humidity on growth, flowering, keeping quality, and water relations of four short-day *greenhouse* species. *Sci. Hortic*, 86 (4):299-310.
- Orta, A.H., Erdem, Y., and Erdem,T. 2003. Crop Water Stress Index for Watermelon. *Sci. Hortic*, 98:121-130.
- Parkash, V. And Singh, S. 2020. A Review On Potential Plant-Based Water Stress Indicators for Vegetable Crops. *Sustainability*, 12:3945.
- Putro, B., Furqon, M.T., dan Wijoyo, S.H. 2018. prediksi Jumlah Kebutuhan Pemakaian Air menggunakan Metode Exponentioal Smooting (Study Kasus: PDAM Kota Malang). *J. Pengemb. Teknol. Inf. dan Ilmu Komput. Univ. Brawijaya*, 4 (11):4679-4686.
- Ryu, K.H., Kim, G.Y., and Chae, H.Y. 2000. *Monitoring Greenhouse Plant Using Thermal Imaging*. IFAC Bio-Robotics, Osaka.
- Setiawati, T. dan I. F. Syamsi. 2019. Karakteristik Stomata Berdasarkan Estimasi Waktu dan Perbedaan Intensitas Cahaya Pada Daun Hibiscus tiliaceus Linn. Di Pangandaran, Jawa Barat. *Jurnal Pro-Life*, 6(2): 148-159.



- Sezen, S.M., Yazar, A., Daşgan, Y., Yucel, S., Akyildiz, A., Tekin, S., and Akhoundnejad, Y. 2014. Evaluation Of Crop Water Stress Index (CWSI) for Red Pepper With Drip And Furrow Irrigation Under Varying Irrigation Regimes. *Agric. Water Manag.*, 143:59-70.
- Sibomana, I.C., Aguyoh, J.N., & Opiyo, A.M. 2013. Water Stress Affects Growth And Yield ff Container Growth Tomato (*Lycopersicon esculentum Mill*) Plants. *Global Journal of Bio-Science and Biotechnology*, 2(4):461-466.
- Singh, J., Ge, Y., Heeren, D.M., Walter-Shea, E., Neale, C.M., Irmak, S., Woldt, W.E., Bai, G., Bhatti, S., Maguire, M.S. 2021. Inter-Relationships Between Water Depletion and Temperature Differential in Row Crop Canopies in a Sub-Humid Climate. *Agric. Water Manag.*, 256: 107061.
- Smith, R., Barrs, H., Steiner, J., and Stapper, M. Relationship Between Wheat Yield And Foliage Temperature: Theory And Its Application to Infrared Measurements, *Agric. For. Meteorol.*, 36:129-143.
- Sunardi, Yudhana, A., dan Saifullah, S., 2016. *Thermal imaging* untuk Identifikasi Telur. prosiding Konferensi Nasional Ke-4. Asosiasi Program Pascasarjana Perguruan Tinggi Muhammadiyah (APPPTM), Yogyakarta. ISBN: 978-602-19568-1-6.
- Suprayogi, I., Trimaijon, & Mahyudi. 2014. Model Prediksi Liku Kalibrasi menggunakan Pendekatan Jaringan Saraf Tiruan (ZST) (Studi Kasus: Sub DAS Siak Hulu). *Jurnal Online Mahasiswa Fakultas Teknik Universitas Riau*, 1(1):1-18.
- Sutiarso, L., Suyantohadi, A., Kastono, D., Nugroho, A.P. 2011. Aplikasi Sistem Monitoring Pertumbuhan Tanaman Berbasis Web Menggunakan Machine Vision. *AGRITECH*, 31(4):360-367.
- Swarup, A., Lee,W.S., Peres, N., Fraisse, C. 2020. Strawberry Plant Wetness Detection Using Color and *Thermal imaging*. *Journal of Biosystem Engineering*, 45:409-421.
- Varith, J., Hyde, G.M., Baritelle, A.L., Fellman, J.K., and Sattabongkot, T., 2003. Non-contact Bruise Detection in Apples by *Thermal imaging*. *Journal of Innovative Food Science and Emerging Technologies*, 4:2011-218. doi:10.1016/S1466-8564(03)00021-3.
- Wahyuningsih, E.D. dan Nurhidayati,M. 2021. Pemanfaatan Green House Sebagai Salah Satu Sumber Pangan Di Desa Menang Jambon. *Prosiding Pengabdian Masyarakat*, 1: 125-139.
- Wiratmaja, W. 2017. Suhu, Energi, dan Air dalam Fotosintesis. *Fakultas Pertanian Universitas Udayana*, 1-43.  
[https://simdos.unud.ac.id/uploads/file\\_pendidikan\\_1\\_dir/879d88e6890b1315be1005a3be9e7e5f.pdf](https://simdos.unud.ac.id/uploads/file_pendidikan_1_dir/879d88e6890b1315be1005a3be9e7e5f.pdf).
- Wiratmoko, A. 2021. Perancangan Sistem *Monitoring* Termografi Berbasis *Thermal imaging Camera* pada *Growth Chamber*. Skripsi. Teknik Pertanian dan Biosistem, Fakultas Teknologi Pertanian, Universitas Gadjah Mada, Yogyakarta.
- Xu, Q. and Huang, B. 2000. Effect of differential air and soil temperature on carbohydrate metabolism in creeping bentgrass. *Crop Sci.* 40 (5), 1368-1374.