DAFTAR PUSTAKA

Acquah, G. E., Hernandez-Allica, J., Thomas, C. L., Dunham, S. J., Towett, E. K., Drake, L. B., Shepherd, K. D., McGrath, S. P., & Haefele, S. M. (2022). Portable X-ray fluorescence (pXRF) calibration for analysis of nutrient concentrations and trace element contaminants in fertilisers. *PLoS ONE*, *17*(1 January). https://doi.org/10.1371/journal.pone.0262460

Andrade, R., Silva, S. H. G., Benedet, L., Mancini, M., Lima, G. J., Nascimento, K., Amaral, F. H. C., Silva, D. R. G., Ottoni, M. V., Carneiro, M. A. C., & Curi, N. (2023). Proximal sensing provides clean, fast, and accurate quality control of organic and mineral fertilizers. *Environmental Research*, *236*. https://doi.org/10.1016/j.envres.2023.116753

Awad, M., & Khanna, R. (2015). *Efficient Learning Machine: Theories, Concepts, and Applications for Engineers and System Designers* (1 ed.). Apress. https://doi.org/https://doi.org/10.1007/978-1-4302-5990-9

Azahari, D. H., & Sukarman. (2023). Impact of chemical fertilizer on soil fertility of oil palm plantations in relation to productivity and environment. *IOP Conference Series: Earth and Environmental Science*, *1243*(1). https://doi.org/10.1088/1755-1315/1243/1/012020

Badan Pusat Statistik. (2024). *Statistik Kelapa Sawit Indonesia | Indonesian Oil Palm Statistics* (Vol. 17). https://www.bps.go.id/id/publication/2024/11/29/d5dcb42ab730df1be4339c34/statistik-kelapa-sawit-indonesia-2023.html

Badan Standardisasi Nasional. (2024). *Standar Nasional Indonesia (SNI) 2803:2024 | Pupuk NPK Padat*. https://pesta.bsn.go.id/produk/detail/14964-sni28032024

Bahmutsky, S., Grassauer, F., Arulnathan, V., & Pelletier, N. (2024). A review of life cycle impacts and costs of precision agriculture for cultivation of field crops. Dalam *Sustainable Production and Consumption* (Vol. 52, hlm. 347–362). Elsevier B.V. https://doi.org/10.1016/j.spc.2024.11.010

Bessou, C., Verwilghen, A., Beaudoin-Ollivier, L., Marichal, R., Ollivier, J., Baron, V., Bonneau, X., Carron, M. P., Snoeck, D., Naim, M., Aryawan, A. A. K., Raoul, F., Giraudoux, P., Surya, E., Sihombing, E., & Caliman, J. P. (2017). Agroecological practices in oil palm plantations: Examples from the field. *OCL - Oilseeds and fats, Crops and Lipids*, *24*(3). https://doi.org/10.1051/ocl/2017024

Corley, R. H. V., & Tinker, P. B. (2016). *The Oil Palm* (5 ed.). John Wiley & Sons.

Donough, C. R., Witt, C., & Fairhurst, T. H. (2010). *YIELD INTENSIFICATION IN OIL PALM USING BMP AS A MANAGEMENT TOOL*. https://www.researchgate.net/publication/267993705

Dubos, B., Bonneau, X., & Flori, A. (2022). *Oil Palm Fertilization Guide*. éditions Quæ.

Gebbers, R., & Adamchuk, V. I. (2010). Precision Agriculture and Food Security. *Science*, *327*(5967), 828–831. https://doi.org/10.1126/science.1183899

Hastie, T., Tibshirani, R., & Friedman, J. (2009). *The Elements of Statistical Learning* (2 ed.). http://www.springer.com/series/692

Hsu, C.-W., Chang, C.-C., & Lin, C.-J. (2003). *A Practical Guide to Support Vector Classification*. http://www.csie.ntu.edu.tw/~cjlin

Huang, S., Nianguang, C. A. I., Penzuti Pacheco, P., Narandes, S., Wang, Y., & Wayne, X. U. (2018). Applications of support vector machine (SVM) learning in cancer genomics. Dalam *Cancer Genomics and Proteomics* (Vol. 15, Nomor 1, hlm. 41–51). International Institute of Anticancer Research. https://doi.org/10.21873/cgp.20063

Huang, Y., Qian, Y., Wei, H., Lu, Y., Ling, B., & Qin, Y. (2023). A survey of deep learning-based object detection methods in crop counting. Dalam *Computers and Electronics in Agriculture* (Vol. 215). Elsevier B.V. https://doi.org/10.1016/j.compag.2023.108425

Jelsma, I., Woittiez, L. S., Ollivier, J., & Dharmawan, A. H. (2019). Do wealthy farmers implement better agricultural practices? An assessment of implementation of Good Agricultural Practices among different types of independent oil palm smallholders in Riau, Indonesia. *Agricultural Systems*, *170*, 63–76. https://doi.org/10.1016/j.agsy.2018.11.004

Kecman, V. (2005). Support Vector Machines – An Introduction. Dalam *Support Vector Machines: Theory and Applications* (Vol. 177, hlm. 605). https://doi.org/10.1007/10984697_1

Li, J., Gao, Y., Zeng, J., Li, X., Wu, Z., & Wang, G. (2023). Online Rapid Detection Method of Fertilizer Solution Information Based on Characteristic Frequency Response Features. *Sensors*, *23*(3). https://doi.org/10.3390/s23031116

Li, J., Ma, Y., Zhang, J., & Kong, D. (2025). Rapid detection of fertilizer information based on Raman spectroscopy and machine learning. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, *324*. https://doi.org/10.1016/j.saa.2024.124985

Liu, J. J., Wu, H., & Riaz, I. (2025). Advanced technologies for smart fertilizer management in agriculture: A Review. Dalam *IEEE Access*. Institute of Electrical and Electronics Engineers Inc. https://doi.org/10.1109/ACCESS.2025.3594361

Lubis, E. J., Rauf, A., & Sarifuddin. (2023). Effectiveness of Fertilization Techniques on Growth Two Varieties of Palm Oil Seeds (Elaeis guineensis Jacq.) In Main Nursery. *Journal of Social Research*, *2*, 2759–2772. http://ijsr.internationaljournallabs.com/index.php/ijsr

Ma, Y., Wu, Z., Cheng, Y., Chen, S., & Li, J. (2024). Rapid Detection of Fertilizer Information Based on Near-Infrared Spectroscopy and Machine Learning and the Design of a Detection Device. *Agriculture (Switzerland)*, *14*(7). https://doi.org/10.3390/agriculture14071184

Michelson, H., Gourlay, S., Lybbert, T., & Wollburg, P. (2023). Review: Purchased agricultural input quality and small farms. Dalam *Food Policy* (Vol. 116). Elsevier Ltd. https://doi.org/10.1016/j.foodpol.2023.102424

Monzon, J. P., Lim, Y. L., Tenorio, F. A., Farrasati, R., Pradiko, I., Sugianto, H., Donough, C. R., Rattalino Edreira, J. I., Rahutomo, S., Agus, F., Slingerland, M. A., Zijlstra, M., Saleh, S., Nashr, F., Nurdwiansyah, D., Ulfaria, N., Winarni, N. L., Zulhakim, N., & Grassini, P. (2023). Agronomy explains large yield gaps in smallholder oil palm fields. *Agricultural Systems*, *210*. https://doi.org/10.1016/j.agsy.2023.103689

Mountrakis, G., Im, J., & Ogole, C. (2011). Support vector machines in remote sensing: A review. Dalam *ISPRS Journal of Photogrammetry and Remote Sensing* (Vol. 66, Nomor 3, hlm. 247–259). https://doi.org/10.1016/j.isprsjprs.2010.11.001

Oktasari, U. D. (2024). *PERANCANGAN SISTEM DETEKSI PUPUK OFF-SPEC BERBASIS SENSOR MAKRO NUTRIEN PADA PERKEBUNAN KELAPA SAWIT* [Skripsi Sarjana]. Universitas Gadjah Mada.

Pangaribuan, I. F., Wening, S., Pratiwi, D. R., Mardiana, C., Setiowati, R. D., & Ginting, E. N. (2024). The effect of fertilizer variation doses input on seedlings of several oil palm varieties. *BIO Web of Conferences*, *123*. https://doi.org/10.1051/bioconf/202412301013

Raharja, S., Marimin, Machfud, Papilo, P., Safriyana, Massijaya, M. Y., Asrol, M., & Darmawan, M. A. (2020). Institutional strengthening model of oil palm independent smallholder in Riau and Jambi Provinces, Indonesia. *Heliyon*, *6*(5). https://doi.org/10.1016/j.heliyon.2020.e03875

Ramin Shamshiri, R., A. Hameed, I., K. Balasundram, S., Ahmad, D., Weltzien, C., & Yamin, M. (2019). Fundamental Research on Unmanned Aerial Vehicles to Support Precision Agriculture in Oil Palm Plantations. Dalam *Agricultural Robots - Fundamentals and Applications*. IntechOpen. https://doi.org/10.5772/intechopen.80936

Raschka, Sebastian., Liu, Yuxi., Mirjalili, Vahid., & Dzhulgakov, Dmytro. (2022). *Machine learning with Pytorch and Scikit-Learn : develop machine learning and deep learning models with scikit-learn and PyTorch*. Packt Publishing, Limited.

Reemst, L. van. (2015). *Baseline study for implementation of best management practices (BMPs) by oil palm (Elaeis guineensis) smallholders in the village of Ramin, Jambi, Indonesia* [MSc minor thesis, Wageningen University & Research]. https://edepot.wur.nl/456691

Rhebergen, T. (2012). *Analysis of Implementation of Best Management Practices in Oil Palm Plantations in Indonesia* [MSc thesis Plant Production Systems, Wageningen University & Research]. https://edepot.wur.nl/211498

ROLLMED. (t.t.). *Laboratory mini alumina ceramics porcelain lab mortar and pestle set*. Diambil 9 Januari 2026, dari https://id.rollmed.link/lab-supplies/laboratory-mini-alumina-ceramics-porcelain.html

Ruangratanakorn, J., Suwonsichon, T., Kasemsumran, S., & Thanapase, W. (2020). Installation design of on-line near infrared spectroscopy for the production of compound fertilizer. *Vibrational Spectroscopy*, *106*. https://doi.org/10.1016/j.vibspec.2019.103008

Schölkopf, B., & Smola, A. J. (2001). *Learning with Kernels: Support Vector Machines, Regularization, Optimization, and Beyond*. The MIT Press. https://doi.org/10.7551/mitpress/4175.001.0001

Seminar, K. B., Imantho, H., Sudradjat, Yahya, S., Munir, S., Kaliana, I., Mei Haryadi, F., Noor Baroroh, A., Supriyanto, Handoyo, G. C., Kurnia Wijayanto, A., Ijang Wahyudin, C., Liyantono, Budiman, R., Bakir Pasaman, A., Rusiawan, D., & Sulastri. (2024). PreciPalm: An Intelligent System for Calculating Macronutrient Status and Fertilizer Recommendations for Oil Palm on Mineral Soils Based on a Precision Agriculture Approach. *Scientific World Journal*, *2024*(1). https://doi.org/10.1155/2024/1788726

Sha, W., Li, J., Xiao, W., Ling, P., & Lu, C. (2019). Quantitative analysis of elements in fertilizer using laser-induced breakdown spectroscopy coupled with support vector regression model. *Sensors (Switzerland)*, *19*(15). https://doi.org/10.3390/s19153277

Shen, J., Qiao, W., Chen, H., Zhou, J., & Liu, F. (2021). Application of visible/near infrared spectrometers to quickly detect the nitrogen, phosphorus, and potassium content of chemical fertilizers. *Applied Sciences (Switzerland)*, *11*(11). https://doi.org/10.3390/app11115103

Singh, S. K., Tiwari, A. K., & Paliwal, H. K. (2023). A state-of-the-art review on the utilization of machine learning in nanofluids, solar energy generation, and the prognosis of solar power. Dalam *Engineering Analysis with Boundary Elements* (Vol. 155, hlm. 62–86). Elsevier Ltd. https://doi.org/10.1016/j.enganabound.2023.06.003

Soliman, T., Lim, F. K. S., Lee, J. S. H., & Carrasco, L. R. (2016). Closing oil palm yield gaps among Indonesian smallholders through industry schemes, pruning, weeding and improved seeds. *Royal Society Open Science*, *3*(8). https://doi.org/10.1098/rsos.160292

Sukarman, Sutiarso, L., Nugroho, A. P., Wiratmoko, A., Okayasu, T., Suwardi, Primananda, S., Hasanuddin, A., & Wirianata, H. (2024). A COMPREHENSIVE ASSESSMENT OF COMPOSITION AND NUTRIENT CONTENT IN VARIOUS COMMERCIAL FERTILISERS USED IN INDONESIAN OIL PALM PLANTATIONS. *Journal of Oil Palm Research*. https://doi.org/10.21894/jopr.2024.0043

Teye, E., Amuah, C. L. Y., Atiah, K., Darko, R. O., Amoah, K. K., Afutu, E., & Owusu, R. (2022). Feasibility Study on the Use of a Portable NIR Spectrometer and Multivariate Data Analysis to Discriminate and Quantify Adulteration in Fertilizer. *Journal of Spectroscopy*, *2022*. https://doi.org/10.1155/2022/1412526

Vapnik, V. N. (1963). Pattern recognition using generalized portrait method. *Automation and Remote Control*, *24*, 774–780. https://api.semanticscholar.org/CorpusID:115205884

Viering, T., & Loog, M. (2022). *The Shape of Learning Curves: a Review*. http://arxiv.org/abs/2103.10948

Wardani, R. F. K. (2025). *UJI KINERJA ALAT DETEKSI KANDUNGAN NPK DALAM PUPUK BERBASIS SOIL INTEGRATED SENSORS PADA PERKEBUNAN KELAPA SAWIT* [Skripsi Sarjana]. Universitas Gadjah Mada.

Widi, H. (2024, November 26). *11 Pejabat Kementan Dinonaktifkan, 27 Perusahaan Pupuk Ditindak*. https://www.kompas.id/artikel/27-perusahaan-pupuk-ditindak-11-pejabat-dinonaktifkan

Zhang, N., Wang, M., & Wang, N. (2002). Precision agriculture—a worldwide overview. *Computers and Electronics in Agriculture*, *36*(2), 113–132. https://doi.org/https://doi.org/10.1016/S0168-1699(02)00096-0