UNIVERSITAS
GADJAH MADA
**Pengaruh Bahan Pembenah Tanah dan Pupuk K2SO4 terhadap Sifat Kimia Tanah dan Serapan K Padi Gogo
pada Vertisol Playen, Gunungkidul**
PUTERI SYAHDAN SANYONO, Prof. Dr. Sri Nuryani Hidayah Utami, M.P.; Dr. Agr. Cahyo Wulandari, S.P., M.P.
**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

# DAFTAR PUSTAKA

Aditama, D. R., Mindari, W., Maroeto, M., & Chakim, M. G. (2025). Humic Silica for Optimising Soil Phosphorus Availability and Phosphorus Uptake by Maize Plants on Industrial Contaminated Lands. *Jurnal Teknik Pertanian Lampung (Journal of Agricultural Engineering)*, *14*(5), 1748-1757.

Albrecht, W. A. 1975. Albrecht Papers. Acres U.S.A, Viroqua.

Alvarez, R. D. C. F., de Mello Prado, R., Felisberto, G., Deus, A. C. F., & De Oliveira, R. L. L. (2018). Effects of soluble silicate and nanosilica application on rice nutrition in an Oxisol. *Pedosphere*, *28*(4), 597-606.

Agbede, T. M., Oyewumi, A., Agbede, G. K., Adekiya, A. O., Adebiyi, O. T. V., Abisuwa, T. A., ... & Eifediyi, E. K. (2024). Impacts of poultry manure and biochar amendments on the nutrients in sweet potato leaves and the minerals in the storage roots. *Scientific Reports*, *14*(1), 16598.

Bariyyah, K., & Hadi, A. 2023. Respon Perkembangan Buah pada Tanaman Semangka terhadap Pemberian Asam Humat sebagai Dasar Budidaya Smart Farming. Agrotekma: Jurnal Agroteknologi dan Ilmu Pertanian, 7(2), 72-81.

Bolan, N., Srivastava, P., Rao, C. S., Satyanaraya, P. V., Anderson, G. C., Bolan, S., ... & Kirkham, M. B. 2023. Distribution, characteristics and management of calcareous soils. *Advances in agronomy*, *182*, 81-130.

Clark, R. Á., & Zeto, S. K. 2000. Mineral acquisition by arbuscular mycorrhizal plants. *Journal of plant Nutrition*, *23*(7), 867-902.

Cui, J., Yang, B., Zhang, M., Song, D., Xu, X., Ai, C., ... & Zhou, W. 2023. Investigating the effects of organic amendments on soil microbial composition and its linkage to soil organic carbon: A global meta-analysis. *Science of The Total Environment*, *894*, 164899.

Driessen, P., Deckers, J., Spaargaren, O., & Nachtergaele, F. 2001. *Lecture notes on the major soils of the world*. Food and Agriculture Organization of the United Nations.

Eneji, A. E., Irshad, M., Honna, T., Yamamoto, S., Endo, T., & Masuda, T. 2003. Potassium, calcium, and magnesium mineralization in manure-treated soils. *Communications in soil science and plant analysis*, *34*(11-12), 1669-1679.

Etesami, H., Li, Z., Maathuis, F. J., & Cooke, J. 2022. The combined use of silicon and arbuscular mycorrhizas to mitigate salinity and drought stress in rice. *Environmental and experimental botany*, *201*, 104955.

UNIVERSITAS GADJAH MADA
**Pengaruh Bahan Pembenah Tanah dan Pupuk K2SO4 terhadap Sifat Kimia Tanah dan Serapan K Padi Gogo pada Vertisol Playen, Gunungkidul**
PUTERI SYAHDAN SANYONO, Prof. Dr. Sri Nuryani Hidayah Utami, M.P.; Dr. Agr. Cahyo Wulandari, S.P., M.P.
**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Escobar, M. O., & Hue, N. V. 2008. Temporal changes of selected chemical properties in three manure–Amended soils of Hawaii. *Bioresource technology*, *99*(18), 8649-8654.

Finlay, R. D. 2008. Ecological aspects of mycorrhizal symbiosis: with special emphasis on the functional diversity of interactions involving the extraradical mycelium. *Journal of experimental botany*, *59*(5), 1115-1126.

Fitriyah, D., Ubaidillah, M., & Oktaviani, F. 2020. Analisis kandungan gizi beras dari beberapa galur padi transgenik Pac Nagdong/Ir36. ARTERI: Jurnal Ilmu Kesehatan, 1(2), 154-160.

Gross, A., & Glaser, B. 2021. Meta-analysis on how manure application changes soil organic carbon storage. *Scientific reports*, *11*(1), 5516.

Gurav, P. P., Ray, S. K., Datta, S. C., Choudhari, P. L., & Hartmann, C. 2024. Role of clay cation exchange capacity, location of charge, and clay mineralogy on potassium availability in Indian Vertisols. *Clays and Clay Minerals*, *72*, e3.

Haedar, Z., Kasifah, K., Mado, I., & Pudji, N. P. 2022. Pertumbuhan tanaman mentimun (Cucumis sativus L.) Melalui pemberian pupuk kandang sapi dan pupuk kandang kambing. *AGROTEK: Jurnal Ilmiah Ilmu Pertanian*, *6*(1), 99-108.

Haridjaja, O., Baskoro, D. P. T., & Setianingsih, M., 2013. Perbedaan Nilai Kadar Air Kapasitas Lapang Berdasarkan Metode Alhricks, Drainase Bebas, Dan Pressure Plate Pada Berbagai Tekstur Tanah Dan Hubungannya Dengan Pertumbuhan Bunga Matahari (Helianthus Annuus L.), 15 (2), 52-59.

Hartatik, W., Husnain, H., & Widowati, L. R. 2015. Peranan pupuk organik dalam peningkatan produktivitas tanah dan tanaman. *Jurnal Sumberdaya Lahan*, *9*(2), 140352.

Hayati, M. D. N., Rosanti, A. D., & Utomo, P. S. 2021. pengaruh dosis pupuk nanosilika sekam. padi. pada pertumbuhan. dan. produksi.. jagung. manis (Zea mays saccharata Sturt L.) VARIETAS TALENTA. Jurnal Pertanian Cemara, 18(2), 46-54.

Hendi & Wibowo, P. H., 2020, Analisa Berat Volume Dan Kuat Tekan Batako Dengan Penambahan Fibreglass, 5(2), 40-46.

Huntington, T. G. 2000. The potential for calcium depletion in forest ecosystems of southeastern United States: review and analysis. *Global Biogeochemical Cycles*, *14*(2), 623-638.

Jalali, M., Arian, T. M., & Ranjbar, F. 2020. Selectivity coefficients of K, Na, Ca, and Mg in binary exchange systems in some calcareous soils. *Environmental Monitoring and Assessment*, *192*(2), 80.

Jomhataikool, B., Faungnawakij, K., Kuboon, S., Kraithong, W., Chutipaichit, S., Fuji, M., & Eiad-Ua, A. 2019. Effect of humic acid extracted from Thailandâ€™s leonardite on rice growth. *Journal of Metals, Materials and Minerals*, *29*(1).

UNIVERSITAS
GADJAH MADA
**Pengaruh Bahan Pembenah Tanah dan Pupuk K2SO4 terhadap Sifat Kimia Tanah dan Serapan K Padi Gogo
pada Vertisol Playen, Gunungkidul**
PUTERI SYAHDAN SANYONO, Prof. Dr. Sri Nuryani Hidayah Utami, M.P.; Dr. Agr. Cahyo Wulandari, S.P., M.P.
**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Khan, M. B. U. M., Arifin, A. Z., & Zulfarosda, R. 2021. Pengaruh pemberian pupuk kandang sapi terhadap pertumbuhan dan hasil tanaman jagung manis (Zea Mays L. Saccharata Sturt.). AGROSCRIPT: Journal of Applied Agricultural Sciences, 3(2), 113-120.

Kumar, D., Singh, A. P., & Kumar, A. 2017. Nutrient uptake and yield of rice (Oryza sativa L.) as influenced by coal-derived potassium humate and chemical fertilizers. *Oryza*, *54*(2), 200-207.

Kumar, D., Singh, A. P., Raha, P., Rakshit, A., Singh, C. M., & Kishor, P. 2013. Potassium humate: a potential soil conditioner and plant growth promoter. *Int. J. Agric. Environ. Biotechnol*, *6*(3), 441-446.

Kundu, A., Raha, P., & Dubey, A. N. 2021. Impact of source and method of potassium application on dry matter accumulation and partitioning of potassium in rice (Oryza sativa L.). *Journal of Soil Science and Plant Nutrition*, *21*(3), 2252-2263.

Larrea, G., Wyngaard, N., Eyherabide, M., Calvo, N. R., Puricelli, M., Barbieri, P., ... & Rozas, H. S. 2023. Cation nutrient reserves decline markedly under intensive cropping of Pampas Mollisols. *Catena*, *223*, 106916.

Latief, M. 2024. Pabrik Potassium Sulfate dengan Proses Dekomposisi Potassium Chloride dan Ammonium Sulfate (Doctoral dissertation, UPN Veteran Jawa Timur).

Lian, W., Geng, A., Wang, Y., Liu, M., Zhang, Y., Wang, X., & Chen, G. 2023. The molecular mechanism of potassium absorption, transport, and utilization in rice. *International Journal of Molecular Sciences*, *24*(23), 16682.

Lumbanraja, P., Tampubolon, B., Pandiangan, S., Naibaho, B., Tindaon, F., & Sidbutar, R. C. 2023. Aplikasi Abu Boiler Dan Pupuk Kandang Sapi Terhadap Hasil Kacang Tanah (*Arachis hypogaea L.*) Pada Tanah Ultisol Simalingkar. Jurnal Agrium, 20(1), 35-41.

Mahdi, A. H., Badawy, S. A., Abdel Latef, A. A. H., El Hosary, A. A., Abd El Razek, U. A., & Taha, R. S. (2021). Integrated effects of potassium humate and planting density on growth, physiological traits and yield of Vicia faba L. grown in newly reclaimed soil. *Agronomy*, *11*(3), 461.

Marliani, L., Sumadi, S., & Nurmala, T. 2019. Respons pertumbuhan, hasil, dan tingkat kerebahan padi varietas IPB 3S terhadap pupuk hayati dan nano silika. *Jurnal Kultivasi*, *18*(2), 1.

Mathur, P., & Roy, S. 2020. Nanosilica facilitates silica uptake, growth and stress tolerance in plants. *Plant Physiology and Biochemistry*, *157*, 114-127.

Munawaroh, L., Sulistyono, E., & Lubis, I. 2016. Karakter morfologi dan fisiologi yang berkaitan dengan efisiensi pemakaian air pada beberapa varietas padi gogo. *Jurnal Agronomi Indonesia (Indonesian Journal of Agronomy)*, *44*(1), 1-7.

UNIVERSITAS
GADJAH MADA
**Pengaruh Bahan Pembenah Tanah dan Pupuk K2SO4 terhadap Sifat Kimia Tanah dan Serapan K Padi Gogo
pada Vertisol Playen, Gunungkidul**
PUTERI SYAHDAN SANYONO, Prof. Dr. Sri Nuryani Hidayah Utami, M.P.; Dr. Agr. Cahyo Wulandari, S.P., M.P.
**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Mustawa, M., Abdullah, S. H., Putra, G. M. D., 2017. Analisis Efisiensi Irigasi Tetes Pada Berbagai Tekstur Tanah Untuk Tanaman Sawi (Brassica Juncea) Efficiency Analysis Of Drips Irrigation On Various Land Texture For Green Mustard (Brassica Juncea), 5(2), 408-421.

Nasrudin, N., Rosmala, A., & Wijoyo, R. B. (2022). Application of silica nutrients improves plant growth and biomass production of paddy under saline conditions. *Caraka Tani: Journal of Sustainable Agriculture*, *37*(1), 111-122.

Noviani, N. W. P., dan Rahayu, Y. S. 2022. Pengaruh Pemberian Pseudomonas fluorescens, Azospirillum sp. dan Mikroorganisme Lokal terhadap Produktivitas dan Pertumbuhan Kedelai pada Tanah Kapur. LenteraBio: Berkala Ilmiah Biologi, 11(3), 493-502.

Pasricha, N. S. 1983. Cation activity ratios in the soil solution and availability of potassium to rice in a submerged soil. *The Journal of Agricultural Science*, *100*(1), 1-6.

Prasetya, M. E. 2014. Pengaruh pupuk NPK mutiara dan pupuk kandang sapi terhadap pertumbuhan dan hasil tanaman cabai merah keriting varietas arimbi (Capsicum annuum L.). *Agrifor: Jurnal Ilmu Pertanian dan Kehutanan*, *13*(2), 191-198.

Prasetyo, B. H. 2017. Perbedaan sifat-sifat tanah vertisol dari berbagai bahan induk.

Rajiman, R., Yekti, A., Megawati, S., & Anshori, A. 2022. Pengaruh Dosis Pupuk Kandang terhadap Karakter Agronomi Beberapa Varietas True Shallot Seed di Tanah Vertisol. *Jurnal Triton*, *13*(1), 98-108.

Rakesh, B., Chitdeshwari, T., & Mohanapriya, G. 2024. Fascinating role of nanosilica in mitigating drought and nutrient stress–A review. *Plant Stress*, *14*, 100672.

Safriyani, E., dan Merismon, A. P. 2021. Aplikasi Mikoriza dalam Meningkatkan Pertumbuhan dan Produksi Tanaman Tomat. Lansium, 2(2), 36-39.

Shakila, N. A, Mahrup, Iemaaniah, Z. M., Dewi, R. A. S. 2023. Pendampingan Budidaya Jahe Merah (Zingiber officinale var. Rubrum) di Lahan Kering Tanah Vertisol pada Daerah Penyangga KEK Mandalika, 4(1), 101 – 105.

Shin, R. 2014. Strategies for improving potassium use efficiency in plants. *Molecules and cells*, *37*(8), 575-584.

Silva, J. A. and R. S. Uchida. 2000. Plant Nutrient Management in Hawaii's Soils: Approaches For Tropical and Subtropical Agriculture. University of Hawaii, Manoa

Siregar, R., Muhamad, V., Putra, S. M., Aziz, M. A., Fadila, H., Arisandy, P., ... & Maulidina, M. 2023. Application of humic acid supplemented with micronutrient increase rice production. *Indonesian Journal of Agronomy/Jurnal Agronomi Indonesia*, *51*(3), 366.

UNIVERSITAS GADJAH MADA
**Pengaruh Bahan Pembenah Tanah dan Pupuk K2SO4 terhadap Sifat Kimia Tanah dan Serapan K Padi Gogo pada Vertisol Playen, Gunungkidul**
PUTERI SYAHDAN SANYONO, Prof. Dr. Sri Nuryani Hidayah Utami, M.P.; Dr. Agr. Cahyo Wulandari, S.P., M.P.
**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Sukweenadhi, J. 2025. Hubungan Tanah dan Tanaman. *Kesuburan Tanah dan Bahan Organik*.

Supriyadi, S. 2007. Kesuburan tanah di lahan kering Madura. *Jurnal Embryo*, *4*(2), 124-131.

Syamsiyah, J., & Rahina, W. 2017. Ketersediaan dan serapan Ca pada kacang tanah di tanah alfisols yang diberi abu vulkanik kelud dan pupuk kandang. *Agrosains: Jurnal Penelitian Agronomi*, *19*(2), 51-57.

Tamir, G., Shenker, M., Heller, H., Bloom, P. R., Fine, P., & Bar-Tal, A. 2013. Organic N mineralization and transformations in soils treated with animal waste in relation to carbonate dissolution and precipitation. *Geoderma*, *209*, 50-56.

Tarigan, B., Sinarta, E., Guchi, H., & Marbun, P. 2015. Evaluasi status bahan organik dan sifat fisik tanah (bulk density, tekstur, suhu tanah) pada lahan tanaman kopi (coffea sp.) di beberapa kecamatan kabupaten Dairi. *Jurnal Agroekoteknologi Universitas Sumatera Utara*, *3*(1), 103124.

Torun, H., & Toprak, B. 2020. Arbuscular mycorrhizal fungi and K-humate combined as biostimulants: Changes in antioxidant defense system and radical scavenging capacity in Elaeagnus angustifolia. *Journal of Soil Science and Plant Nutrition*, *20*(4), 2379-2393.

Vijayakumar, S., Kumar, D., Ramesh, K., Govindasamy, P., Jinger, D., Khanam, R., ... & Rajpoot, S. K. 2021. Potassium nutrition in rice: a review.

Wahba, M., Fawkia, L. A. B. I. B., & Zaghloul, A. 2019. Management of calcareous soils in arid region. *International Journal of Environmental Pollution and Environmental Modelling*, *2*(5), 248-258.

Wahyuni, F. S., Sukartono, Suwardji. 2023. Evaluation of Physical Properties of Soil Determinants Glucomannan Content of Porang Tuber (Amorphophallus muelleri) in Entisols of North Lombok, Jurnal Biologi Tropis, 23(2), 438–448.

Wang, Y., & Wu, W. H. 2013. Potassium transport and signaling in higher plants. *Annual review of plant biology*, *64*, 451-476.

Wijayati, P. D., & Suryana, A. 2019. Permintaan pangan sumber karbohidrat di Indonesia. *Analisis Kebijakan Pertanian*, *17*(1), 13-26.

Zhang, M., Hu, Y., Han, W., Chen, J., Lai, J., & Wang, Y. (2023). Potassium nutrition of maize: Uptake, transport, utilization, and role in stress tolerance. *The Crop Journal*, *11*(4), 1048-1058.