

DAFTAR PUSTAKA

- Adeleke, R., Cloete, T. E., dan Khasa, D. P. 2012. Culturable Microorganisms Associated With Sishen Iron Ore And Their Potential Roles In Biobeneficiation. *World Journal of Microbiology and Biotechnology*, 28, 1057-1070.
- Aini, L. N., Mulyono, M., dan Hanudin, E. 2016. Mineral Mudah Lapuk Material Piroklastik Merapi dan Potensi Keharaannya Bagi Tanaman. *Planta Tropika*, 4(2), 84-94.
- Anda, M. dan W. Wahdini. 2010. *Sifat, Komposisi Mineral, Dan Kandungan Berbagai Unsur Pada Abu Erupsi Merapi, Oktober-November 2010*. Bogor: Balai Besar Penelitian dan Pengembangan Sumberdaya Lahan Pertanian
- Apriani, I., Arabia, T., dan Sufardi, S. 2019. Identifikasi Mineral Tanah Dengan Menggunakan Difraksi Sinar-X Pada Inceptisol Aceh Besar. *Jurnal Ilmiah Mahasiswa Pertanian*, 4(3), 155-163
- Arifin, M., Devnita, R., Anda, M., Goenadi, D. H., dan Nugraha, A. 2022. Characteristics Of Andisols Developed From Andesitic And Basaltic Volcanic Ash In Different Agro-Climatic Zones. *Soil Systems*, 6(4), 78.
- Badan Litbang Pertanian. 2010. *Laporan Hasil Kajian Singkat (Quick Assessment) Dampak Erupsi Gunung Merapi di Sektor Pertanian*. Desember 2010.
- Bali, I., Ahmad, A., dan Lopulisa, C. 2018. Identifikasi Mineral Pembawa Hara Untuk Menilai Potensi Kesuburan Tanah. *Jurnal Ecosolum*, 7(2), 81-100.
- Berg, A., dan Banwart, S. A. 2000. Carbon dioxide mediated dissolution of Ca-feldspar: implications for silicate weathering. *Chemical Geology*, 163(1-4), 25-42.
- Bolker, B. M., Brooks, M. E., Clark, C. J., Geange, S. W., Poulsen, J. R., Stevens, M. H. H., dan White, J. S. S. 2009. Generalized linear mixed models: a practical guide for ecology and evolution. *Trends in ecology & evolution*, 24(3), 127-135.
- Bowen, N. L. 1922. The Reaction Principle In Petrogenesis. *Journal of Geology*. 30 (3):177-198.
<https://www.mantleplumes.org/WebDocuments/Bowen1922.pdf>.

- Britannica, T. Editors of Encyclopaedia (2024, December 9). pH. *Encyclopedia Britannica*. <https://www.britannica.com/science/pH>
- Cagnon, B., Daval, D., Cabié, M., Lemarchand, D., dan Gin, S. 2022. A comparative study of the dissolution mechanisms of amorphous and crystalline feldspars at acidic pH conditions. *npj Materials Degradation*, 6(1), 34.
- Chadwick, J. P., Troll, V. R., Waight, T. E., van der Zwan, F. M., dan Schwarzkopf, L. M. 2013. Petrology and geochemistry of igneous inclusions in recent Merapi deposits: a window into the sub-volcanic plumbing system. *Contributions to Mineralogy and Petrology*, 165(2), 259-282.
- Dauer, J. M., dan Perakis, S. S. 2013. Contribution Of Calcium Oxalate To Soil-Exchangeable Calcium. *Soil Science*, 178(12), 671-678.
- Duarte, L. M., Xavier, L. V., Rossati, K. F., Oliveira, V. A. D., Schimicoscki, R. S., Ávila Neto, C. N. D., dan Mendes, G. D. O. 2021. Potassium Extraction From The Silicate Rock Verdete Using Organic Acids. *Scientia Agricola*, 79, e20200164.
- Eviati, dan Sulaeman. 2009. *Petunjuk Teknis Edisi 2 "Analisis Kimia Tanah, Tanaman, Air, dan Pupuk"*. Balai Penelitian Tanah. Bogor.
- Fernandes, H. R., Tulyaganov, D. U., Ribeiro, M. J., dan Ferreira, J. M. 2013. Apatite crystallization from glasses in the $\text{Ca}_5(\text{PO}_4)_3\text{F}-\text{CaAl}_2\text{Si}_2\text{O}_8-\text{CaMgSi}_2\text{O}_6-\text{NaAlSi}_3\text{O}_8$ system. *Journal of non-crystalline solids*, 363, 32-38.
- Fiantis, D., Nelson, M., Shamshuddin, J., Goh, T. B., dan Van Ranst, E. 2010. Leaching Experiments In Recent Tephra Deposits From Talang Volcano (West Sumatra), Indonesia. *Geoderma*, 156(3-4), 161-172.
- Gadd, G. M., Bahri-Esfahani, J., Li, Q., Rhee, Y. J., Wei, Z., Fomina, M., dan Liang, X. 2014. Oxalate Production By Fungi: Significance In Geomycology, Biodeterioration And Bioremediation. *Fungal Biology Reviews*, 28(2-3), 36-55.
- Gahoonia, T. S., Asmar, F., Giese, H., Gissel-Nielsen, G., dan Nielsen, N. E. 2000. Root-Released Organic Acids And Phosphorus Uptake Of Two Barley Cultivars In Laboratory And Field Experiments. *European Journal of Agronomy*, 12(3-4), 281-289.

- Geng, Y., Pan, S., Zhang, L., Qiu, J., He, K., Gao, H., ... dan Tian, D. 2022. Phosphorus Biogeochemistry Regulated By Carbonates In Soil. *Environmental Research*, 214, 113894.
- Hardjowigeno, S. 2015. *Dasar-Dasar Ilmu Tanah*. Penerbit Akademika Pressindo. Jakarta.
- Hartati, S. 2006. Tanggapan Jagung Terhadap Pemupukan Fosfat Pada Podzolik Merah Kuning Dan Regosol. *AGRIVET* 10:1-9.
- Iyamuremye, F., Dick, R. P., dan Baham, J. 1996. Organic Amendments And Phosphorus Dynamics: I. Phosphorus Chemistry And Sorption. *Soil Science*, 161(7), 426-435.
- Jensen, A. C., Birkedal, H., dan Bertinetti, L. 2019. Co-Incorporation Of Alkali Metal Ions During Amorphous Calcium Carbonate Precipitation And Their Stabilizing Effect. *Physical Chemistry Chemical Physics*, 21(24), 13230-13233.
- Khademi Z, Jones DL, Malakouti MJ, dan Asadi F. 2010. Organic Acids Differ In Enhancing Phosphorus Uptake by Triticum aestivum L.— Effects Of Rhizosphere Concentration And Counterion. *Plant Soil*. 334: 151–159
- Khusrizal, K., Basyaruddin, B., Mulyanto, M., dan Rauf, A. 2012. Karakteristik Mineralogi Tanah Pesisir Pantai Aceh Utara yang Terpengaruh Tsunami. *Bionatura*, 14(1), 12-21
- Książek, E. 2023. Citric Acid: Properties, Microbial Production, And Applications In Industries. *Molecules*, 29(1), 22.
- Kusumastuti, E. 2012. Pemanfaatan Abu Vulkanik Gunung Merapi Sebagai Geopolimer (suatu polimer anorganik aluminosilikat). *Indonesian Journal of Mathematics and Natural Sciences*, 35(1).
- Lin, S. M., Yu, Y. L., Zhong, M. F., Yang, H., Zhang, C. Y., Zhang, Z. J., dan Wu, Y. Y. 2023. The Dissolution Behavior Of Feldspar Minerals In Various Low-Molecular-Weight Organic Acids. *Materials*, 16(20), 6704.
- Lo, S., dan Andrews, S. 2015. To transform or not to transform: Using generalized linear mixed models to analyse reaction time data. *Frontiers in psychology*, 6, 1171.

- Maruyama, S., Hattori, K., Hirata, T., Suzuki, T., dan Danhara, T. 2016. Simultaneous determination of 58 major and trace elements in volcanic glass shards from the INTAV sample mount using femtosecond laser ablation-inductively coupled plasma-mass spectrometry. *Geochemical Journal*, 50(5), 403-422.
- Matauda, Y. 2010. *Structural relaxation and vibrational dynamics of alkali borate glasses* (Doctoral dissertation, Ph. D Thesis, University of Tsukuba).
- Mitchell, M. J., Jensen, O. E., Cliffe, K. A., dan Maroto-Valer, M. M. 2010. A Model Of Carbon Dioxide Dissolution And Mineral Carbonation Kinetics. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 466(2117), 1265-1290.
- Mulyanto, D. 2021. Material Vulkanik Sebagai Penyusun Utama Tanah Merah Di Atas Batuan Karbonat Karangsari Wonosari. *Jurnal Tanah dan Air (Soil and Water Journal)*, 17(2), 45-55.
- Nakagawa, M., dan Ohba, T. 2002. Minerals in volcanic ash 1: Primary minerals and volcanic glass. *Bulletin of the Volcanological Society of Japan*, 47(1), 41-51.
- Najafi-Ghiri, M., Niazi, M., Khodabakhshi, M., Boostani, H. R., dan Owliaie, H. R. 2019. Mechanisms Of Potassium Release From Calcareous Soils To Different Salt, Organic Acid And Inorganic Acid Solutions. *Soil Research*, 57(3), 301-309.
- National Center for Biotechnology Information (NCBI). 2025. PubChem Compound Summary for CID 6224, Trisodium citrate. (<https://pubchem.ncbi.nlm.nih.gov/compound/Trisodium-citrate>).
- Ng, J. F., Ahmed, O. H., Omar, L., Jalloh, M. B., Kwan, Y. M., Musah, A. A., dan Chowdhury, A. J. K. 2024. Improving Ph Buffering Capacity Of An Acid Soil To Regulate Nutrient Retention And Mitigate Water Pollution Using Calciprill And Sodium Silicate. *Desalination and Water Treatment*, 319, 100491.
- Nurcholis, M. 2013. Karakteristik Fisika dan Mineralogi Material Vulkanik Erupsi Merapi 2010. *Makalah Seminar Nasional Sains dan Teknologi Terapan*, Institut Teknologi Adhi Tama Surabaya.
- Nwoke, O. C., Diels, J., Abaidoo, R., Nziguheba, G., dan Merckx, R. 2008. Organic Acids In The Rhizosphere And Root Characteristics Of Soybean (*Glycine max*) and Cowpea (*Vigna unguiculata*) In Relation To Phosphorus Uptake In Poor Savanna Soils. *African Journal of Biotechnology*, 7(20).

- Padmono, D. 2007. Kemampuan Alkalinitas Kapasitas Penyanggan (*Buffer Capacity*) Dalam Sistem Anaerobik Fixed Bed. *Jurnal Teknologi Lingkungan*, 8(2).
- Perminova, I. V., Frimmel, F. H., Kudryavtsev, A. V., Kulikova, N. A., Abbt-Braun, G., Hesse, S., dan Petrosyan, V. S. 2003. Molecular Weight Characteristics Of Humic Substances From Different Environments As Determined By Size Exclusion Chromatography And Their Statistical Evaluation. *Environmental science & technology*, 37(11), 2477-2485.
- Pramuji, dan Bastaman, M. 2009. Teknik Analisis Mineral Tanah untuk Menduga Cadangan Sumber Hara. *Buletin Teknik Pertanian*. 14(2): 80-82.
- Pratama, A. A., Rifai, Y., dan Marzuki, A. 2017. Docking Molekuler Senyawa 5, 5'-Dibromometilsesamin. *Majalah Farmasi dan Farmakologi*, 21 (3), 67-69.
- Priyadi, S., Darmadji, P., Santoso, U., dan Hastuti, P. 2014. Distribusi Plumbum, Cadmium Pada Biji Kedelai, Dan Deprotonasi Gugus Fungsional Karboksil Asam Sitrat Dalam Khelasi. *Agritech*, 34(4), 407-414.
- Rahayu, R., Ariyanto, D. P., Komariah, K., Hartati, S., Syamsiyah, J., dan Dewi, W. S. 2014. Dampak Erupsi Gunung Merapi Terhadap Lahan Dan Upaya-Upaya Pemulihannya. *Caraka Tani: Journal of Sustainable Agriculture*, 29(1), 61-72.
- Reynolds, J. G., Britton, M. D., dan Carter, R. 2023. A Review of Sodium Oxalate Solubility in Water. *Industrial & Engineering Chemistry Research*, 62(46), 19394-19401.
- Rosling, A., Suttle, K. B., Johansson, E., van Hees, P. A., dan Banfield, J. F. 2007. Phosphorous Availability Influences The Dissolution Of Apatite By Soil Fungi. *Geobiology*, 5(3), 265-280.
- Sanjaya, T. P., Syamsiyah, J., Ariyanto, D. P., dan Komariah, K. 2014. Pelindian Unsur Kalium (K) Dan Natrium (Na) Material Vulkanik Hasil Erupsi Gunung Merapi 2010 (Simulasi Laboratorium). *Caraka Tani: Journal of Sustainable Agriculture*, 29(2), 87-95.
- Sediyarso, M. dan S. Suping. 1987. *Pengaruh Abu Galunggung Terhadap Tanah Pertanian*. Bogor: Pusat Penelitian Tanah.

- Setiawati, A. R., Lumbanraja, J., Kurnia, A. I., Hidayat, M., Aini, S. N., dan Prasetyo, D. 2023. Changes of Soil Chemistry Characteristics of Tephra Mount Anak Krakatau-Indonesia, Through Leaching Experiment. *J Trop Soils*, 28(3), 57-70.
- Setiawati, T. C., Nurcholis, M., Basuki, B., Budiman, S. A., dan Yudiantoro, D. F. 2024. Elemental Composition And Mineralogical Characteristics Of Volcanic Ash And Soil Affected By The Eruption Of Mount Semeru, East Java. *Journal of Degraded and Mining Lands Management*, 11(3), 5741-5753.
- Shu-Xin, T. U., Zhi-Fen, G. U. O., dan Jin-He, S. U. N. 2007. Effect of oxalic acid on potassium release from typical Chinese soils and minerals. *Pedosphere*, 17(4), 457-466.
- Song, S. K., dan Huang, P. M. 1988. Dynamics Of Potassium Release From Potassium-Bearing Minerals As Influenced By Oxalic And Citric Acids. *Soil Science Society of America Journal*, 52(2), 383-390.
- Sophian, R. I., Patonah, A., dan Mohamad, F. 2011. Kualitas Batuan Beku Andesitis Berdasarkan Pendekatan Kuat Tekan Dan Petrologi. *Bulletin of Scientific Contribution*, 9(3), 152-162.
- Staunton, S., dan Leprince, F. 1996. Effect Of Ph And Some Organic Anions On The Solubility Of Soil Phosphate: Implications For P Bioavailability. *European Journal of Soil Science*, 47(2), 231-239.
- Sudaryo, S. 2009. Identifikasi dan penentuan logam berat pada tanah vulkanik di daerah Cangkringan, Kabupaten Sleman dengan metode analisis aktivasi neutron cepat. In *Seminar Nasional V SDM Tekonlogi. Yogyakarta* (Vol. 5).
- Sufriadin, S., Mukhlis, M., dan Hatta, A. A. 2023. Studi Ekstraksi Tembaga Dari Bijih Oksida Dengan Menggunakan Larutan Asam Sitrat. *Jurnal GEOSAPTA*, 9(2), 151-156.
- Sukarman dan Suparto. 2015. Sebaran Dan Karateristik Material Vulkanik Hasil Erupsi Gunung Sinabung Di Sumatera Utara. *Jurnal Tanah dan Iklim* Vol, 39(1), 9-18
- Taalab, A. S., Ageeb, G. W., Siam, H. S., dan Mahmoud, S. A. 2019. Some Characteristics Of Calcareous Soils. *Middle East J*, 8(1), 96-105.
- Vlasov, D. Y., Zelenskaya, M. S., Izatulina, A. R., Janson, S. Y., dan Frank-Kamenetskaya, O. V. 2023. Oxalate Crystallization Under The Action Of Brown Rot Fungi. *Crystals*, 13(3), 432.

- Wahyuni, E. T., Triyono, S., dan Suherman, S. 2012. Penentuan Komposisi Kimia Abu Vulkanik Dari Erupsi Gunung Merapi (Determination of Chemical Composition of Volcanic Ash From Merapi Mt. Eruption). *Jurnal Manusia dan Lingkungan*, 19(2), 150-159.
- Wang C, Wang Z, Lin L, Tian B, dan Pei Y. 2012. Effect Of Low Molecular Weight Organic Acids On Phosphorus Adsorption By Ferric-Alum Water Treatment Residuals. *J Hazard Mater.* 203-204:145–150
- Widiyanto dan A. Rachman. 2008. Aspek Morfologi terhadap Bahaya Gunung Merapi. *Jurnal Kebencanaan Indonesia* II(5), Nopember 2008.
- Yang, X., Chen, X., Guo, E., dan Yang, X. 2019. Path Analysis Of Phosphorus Activation Capacity As Induced By Low-Molecular-Weight Organic Acids In A Black Soil Of Northeast China. *Journal of Soils and Sediments*, 19(2), 840-847.
- Yong-Guan, Z., dan Jia-Xian, L. 1993. Release Of Non-Exchangeable Soil K By Organic Acids. *Pedosphere*, 3, 269-276.
- Yulianti, A., Lintjewas, L., Erlangga, B. D., dan Herawan, W. 2016. Karakteristik Batupasir Kuarsa Gunung Walat dan Potensinya Sebagai Bahan Baku Geomaterial. *Prosiding Geotek Expo Puslit Geoteknologi LIPI*.