

DAFTAR PUSTAKA

- Abbas, F., Hammad, H. M., Fahad, S., Cerdà, A., Rizwan, M., Farhad, W., Ehsan, S., & Bakhat, H. F. (2017). Agroforestry: a sustainable environmental practice for carbon sequestration under the climate change scenarios-a review. *Environmental Science and Pollution Research International*, 24(12), 11177–11191. <https://doi.org/10.1007/s11356-017-8687-0>
- Ball, B. C., Batey, T., & Munkholm, L. J. (2007). Field assessment of soil structural quality – a development of the Peerkamp test. *Soil Use and Management*, 23(4), 329–337. <https://doi.org/https://doi.org/10.1111/j.1475-2743.2007.00102.x>
- Ball, B. C., Guimarães, R. M. L., Cloy, J. M., Hargreaves, P. R., Shepherd, T. G., & McKenzie, B. M. (2017). Visual soil evaluation: A summary of some applications and potential developments for agriculture. *Soil and Tillage Research*, 173, 114–124. <https://doi.org/https://doi.org/10.1016/j.still.2016.07.006>
- Bartlová, J., Badalíková, B., Pospíšilová, L., Pokorný, E., & Šarapatka, B. (2015). Water stability of soil aggregates in different systems of Tillage. *Soil and Water Research*, 10(3), 147–154. <https://doi.org/10.17221/132/2014-SWR>
- Blake, G. R., & Hartge, K. H. (1986). Bulk Density. In *Methods of Soil Analysis* (pp. 363–375). John Wiley & Sons, Ltd. <https://doi.org/https://doi.org/10.2136/sssabookser5.1.2ed.c13>
- Blanchy, G., Albrecht, L., Bragato, G., Garré, S., Jarvis, N., & Koestel, J. (2023). Impacts of soil management and climate on saturated and near-saturated hydraulic conductivity: analyses of the Open Tension-disk Infiltrometer Meta-database (OTIM). *Hydrology and Earth System Sciences*, 27(14), 2703–2724. <https://doi.org/10.5194/hess-27-2703-2023>
- Chaudhry, H., Vasava, H. B., Chen, S., Saurette, D., Beri, A., Gillespie, A., & Biswas, A. (2024). Evaluating the Soil Quality Index Using Three Methods to Assess Soil Fertility. *Sensors (Basel, Switzerland)*, 24(3). <https://doi.org/10.3390/s24030864>
- Chen, L., Zhao, Y., Bai, H., Ai, Z., Chen, P., Hu, Y., Song, S., & Komarneni, S. (2020). Role of Montmorillonite, Kaolinite, or Illite in Pyrite Flotation: Differences in Clay Behavior Based on Their Structures. *Langmuir: The ACS Journal of Surfaces and Colloids*, 36(36), 10860–10867. <https://doi.org/10.1021/acs.langmuir.0c02073>
- Cherubin, M. R., Chavarro-Bermeo, J. P., & Silva-Olaya, A. M. (2019). Agroforestry systems improve soil physical quality in northwestern Colombian Amazon. *Agroforestry Systems*, 93(5), 1741–1753. <https://doi.org/10.1007/s10457-018-0282-y>
- Dai, S., Wen, T., Cai, Z., & Zhang, J. (2020). Dynamics of nitrite in acidic soil during extraction with potassium chloride studied using (15) N tracing. *Rapid Communications in Mass Spectrometry: RCM*, 34(9), e8746. <https://doi.org/10.1002/rcm.8746>
- Danielson, R. E., & Sutherland, P. L. (1986). Porosity. In: Klute A (ed.), *Methods of Soil Analysis. Part 1-Physical and Mineralogical Methods.*, 2nd edition. *American Society of Agronomy, Soil Science Society of America, Madison.*, 9(9), 443–462.
- Deon, F., van Ruitenbeek, F., van der Werff, H., van der Meijde, M., & Marcatelli, C.

- (2022). Detection of Interlayered Illite/Smectite Clay Minerals with XRD, SEM Analyses and Reflectance Spectroscopy. *Sensors (Basel, Switzerland)*, 22(9). <https://doi.org/10.3390/s22093602>
- Dwi, B., Aji, S., Wijayanto, N., & Wasis, B. (2021). *Visual Evaluation of Soil Structure (VESS) Method to Assess Soil Properties of Agroforestry System in Pangalengan , West Java*. 27(2), 80–88. <https://doi.org/10.7226/jtfm.27.2.80>
- Elagib, N. A., & Al-Saidi, M. (2020). Balancing the benefits from the water-energy-land-food nexus through agroforestry in the Sahel. *The Science of the Total Environment*, 742, 140509. <https://doi.org/10.1016/j.scitotenv.2020.140509>
- Emami, N. S., Chavoshi, E., Ayoubi, S., Honarjoo, N., & Zeraatpisheh, M. (2024). Comprehensive assessment of soil quality in various land uses: a comparative analysis of soil quality index models. *Environmental Earth Sciences*, 83(17), 498. <https://doi.org/10.1007/s12665-024-11789-7>
- Franzen, D. W., Wick, A., Bu, H., Gasch, C. K., & Inglett, P. W. (2023). Variability of asymbiotic N-fixation organism activity with distance and time in North Dakota transitional no-till soils. *Soil Science Society of America Journal*, 87(5), 1072–1082. <https://doi.org/https://doi.org/10.1002/saj2.20565>
- Fukumasu, J., Jarvis, N., Koestel, J., & Larsbo, M. (2024). Links between soil pore structure, water flow and solute transport in the topsoil of an arable field: Does soil organic carbon matter? *Geoderma*, 449, 117001. <https://doi.org/https://doi.org/10.1016/j.geoderma.2024.117001>
- Gee, G. W., & Bauder, J. W. (1986). Particle-size Analysis. In *Methods of Soil Analysis* (pp. 383–411). John Wiley & Sons, Ltd. <https://doi.org/https://doi.org/10.2136/sssabookser5.1.2ed.c15>
- Goularte, G. D., Favaretto, N., Martini, A. F., Barth, G., & Cherobim, V. F. (2020). Phosphorus loss index for conservation agriculture systems in Southern Brazil: A new approach to environmental risk assessment. *The Science of the Total Environment*, 717, 137229. <https://doi.org/10.1016/j.scitotenv.2020.137229>
- Guimarães, R. M. L., Neves Junior, A. F., Silva, W. G., Rogers, C. D., Ball, B. C., Montes, C. R., & Pereira, B. F. F. (2017). The merits of the Visual Evaluation of Soil Structure method (VESS) for assessing soil physical quality in the remote, undeveloped regions of the Amazon basin. *Soil and Tillage Research*, 173, 75–82. <https://doi.org/https://doi.org/10.1016/j.still.2016.10.014>
- Guo, J., Wang, G., Wu, Y., Shi, Y., Feng, Y., & Cao, F. (2019). Ginkgo agroforestry practices alter the fungal community structures at different soil depths in Eastern China. *Environmental Science and Pollution Research International*, 26(21), 21253–21263. <https://doi.org/10.1007/s11356-019-05293-w>
- Guo, J., Wang, L., Qu, G., Liu, X., Lian, Y., & Hou, D. (2024). Soil health improvement in a karst area with geogenic Cd enrichment using biochar and clay-based amendments. *Journal of Soils and Sediments*, 24(1), 230–243. <https://doi.org/10.1007/s11368-023-03645-1>
- Hu, M., Peñuelas, J., Sardans, J., Tong, C., Chang, C. T., & Cao, W. (2020). Dynamics of phosphorus speciation and the phoD phosphatase gene community in the rhizosphere and bulk soil along an estuarine freshwater-oligohaline gradient.

Geoderma, 365, 114236.
<https://doi.org/https://doi.org/10.1016/j.geoderma.2020.114236>

- Jarecke, K. M., Zhang, X., Keen, R. M., Dumont, M., Li, B., Sadayappan, K., Moreno, V., Ajami, H., Billings, S. A., Flores, A. N., Hirmas, D. R., Kirk, M. F., Li, L., Nippert, J. B., Singha, K., & Sullivan, P. L. (2024). *Woody Encroachment Modifies Subsurface Structure and Hydrological Function*. <https://doi.org/10.1002/eco.2731>
- Jarvis, N., Coucheney, E., Lewan, E., Klöffel, T., Meurer, K. H. E., Keller, T., & Larsbo, M. (2024). Interactions between soil structure dynamics, hydrological processes, and organic matter cycling: A new soil-crop model. *European Journal of Soil Science*, 75(2), e13455. <https://doi.org/https://doi.org/10.1111/ejss.13455>
- Khurana, I. S., Kaur, S., Kaur, H., & Khurana, R. K. (2015). Multifaceted role of clay minerals in pharmaceuticals. *Future Science OA*, 1(3), FSO6. <https://doi.org/10.4155/fso.15.6>
- Klute, A., & Dirksen, C. (1986). Hydraulic Conductivity and Diffusivity: Laboratory Methods. In *Methods of Soil Analysis* (pp. 687–734). John Wiley & Sons, Ltd. <https://doi.org/https://doi.org/10.2136/sssabookser5.1.2ed.c28>
- Li, G., Yang, T., Chen, R., Dong, H., Wu, F., Zhan, Q., Huang, J., Luo, M., & Wang, L. (2025). Experimental study on in-situ simulation of rainfall-induced soil erosion in forest lands converted to cash crop areas in Dabie Mountains. *PloS One*, 20(2), e0317889. <https://doi.org/10.1371/journal.pone.0317889>
- Li, Q., Dai, J., Zhang, H., Wan, Z., & Xu, J. (2023). Potentially toxic elements in lake sediments in China: Spatial distribution, ecological risks, and influencing factors. *Science of The Total Environment*, 868, 161596. <https://doi.org/https://doi.org/10.1016/j.scitotenv.2023.161596>
- Lingkungan, J. I., Sholikah, D. H., Bratawijaya, S. S., Husada, A. J., Naufal, R., & Wicaksono, K. S. (2024). *Studi Karakteristik Fisika Tanah Zona Perakaran dan Produksi Tanaman Kopi (Coffea sp .) di Kecamatan Wajak , Kabupaten Malang*. 22(3), 731–742. <https://doi.org/10.14710/jil.22.3.731-742>
- Lybrand, R. A. (2023). Connecting soils to life in conservation planning, nutrient cycling, and planetary science. *Earth-Science Reviews*, 237, 104247. <https://doi.org/https://doi.org/10.1016/j.earscirev.2022.104247>
- Ma, L., Song, D., Liu, M., Li, Y., & Li, Y. (2022). Effects of earthworm activities on soil nutrients and microbial diversity under different tillage measures. *Soil and Tillage Research*, 222, 105441. <https://doi.org/https://doi.org/10.1016/j.still.2022.105441>
- Maji, P., & Mistri, B. (2024). Comparative assessment of soil quality dynamics using SQI modelling approach: a study in rice bowl of West Bengal, India. *Environmental Monitoring and Assessment*, 196(6), 567. <https://doi.org/10.1007/s10661-024-12697-w>
- Marion, L. F., Schneider, R., Cherubin, M. R., Colares, G. S., Wiesel, P. G., da Costa, A. B., & Lobo, E. A. (2022). Development of a soil quality index to evaluate agricultural cropping systems in southern Brazil. *Soil and Tillage Research*, 218, 105293. <https://doi.org/https://doi.org/10.1016/j.still.2021.105293>
- Masebo, N., Birhane, E., Takele, S., Perez-Sanz, A., Lucena, J. J., Belay, Z., Anjulo, A.,

- & Yunta, F. (2025). Glomalin related soil protein, soil aggregate stability and soil aggregate-associated organic carbon under agroforestry practices in southern Ethiopia. *BMC Ecology and Evolution*, 25(1), 28. <https://doi.org/10.1186/s12862-025-02365-z>
- Mora-Motta, D., Llanos-Cabrera, M. P., Chavarro-Bermeo, J. P., Ortíz-Morea, F. A., & Silva-Olaya, A. M. (2024). Visual evaluation of soil structure is a reliable method to detect changes in the soil quality of Colombian Amazon pasturelands. *Soil Science Society of America Journal*, 88(2), 527–539. <https://doi.org/https://doi.org/10.1002/saj2.20637>
- Olivares, B. O., Lobo, D., Rey, J. C., Vega, A., & Rueda, M. A. (2023). Relationships between the Visual Evaluation of Soil Structure (VESS) and soil properties in agriculture: A meta-analysis. *Scientia Agropecuaria*, 14(1), 67–78. <https://doi.org/10.17268/sci.agropecu.2023.007>
- Ou, Y., Rousseau, A. N., Wang, L., & Yan, B. (2017). Spatio-temporal patterns of soil organic carbon and pH in relation to environmental factors—A case study of the Black Soil Region of Northeastern China. *Agriculture, Ecosystems & Environment*, 245, 22–31. <https://doi.org/https://doi.org/10.1016/j.agee.2017.05.003>
- Peal, A., Evans, B., Ahilan, S., Ban, R., Blackett, I., Hawkins, P., Schoebitz, L., Scott, R., Sleigh, A., Strande, L., & Veses, O. (2020). Estimating Safely Managed Sanitation in Urban Areas; Lessons Learned From a Global Implementation of Excreta-Flow Diagrams. *Frontiers in Environmental Science*, Volume 8-. <https://doi.org/10.3389/fenvs.2020.00001>
- Rajkai, K., Tóth, B., Barna, G., Hernádi, H., Kocsis, M., & Makó, A. (2015). Particle-size and organic matter effects on structure and water retention of soils. *Biologia*, 70(11), 1456–1461. <https://doi.org/10.1515/biolog-2015-0176>
- Rossi, F., Mugnai, G., & De Philippis, R. (2022). Cyanobacterial biocrust induction: A comprehensive review on a soil rehabilitation-effective biotechnology. *Geoderma*, 415, 115766. <https://doi.org/https://doi.org/10.1016/j.geoderma.2022.115766>
- Savi, T., Petruzzellis, F., Moretti, E., Stenni, B., Zini, L., Martellos, S., Lisjak, K., & Nardini, A. (2019). Grapevine water relations and rooting depth in karstic soils. *The Science of the Total Environment*, 692, 669–675. <https://doi.org/10.1016/j.scitotenv.2019.07.096>
- Teferi, E., Bewket, W., & Simane, B. (2016). Effects of land use and land cover on selected soil quality indicators in the headwater area of the Blue Nile basin of Ethiopia. *Environmental Monitoring and Assessment*, 188(2), 83. <https://doi.org/10.1007/s10661-015-5086-1>
- Turniški, R., Zupančič, N., & Grčman, H. (2023). Geochemical evidence of illuvial processes in clay-rich soils on limestones in a humid temperate climate. *Geoderma*, 429, 116266. <https://doi.org/https://doi.org/10.1016/j.geoderma.2022.116266>
- Wang, Y., Slotsbo, S., & Holmstrup, M. (2022). Soil dwelling springtails are resilient to extreme drought in soil, but their reproduction is highly sensitive to small decreases in soil water potential. *Geoderma*, 421, 115913. <https://doi.org/https://doi.org/10.1016/j.geoderma.2022.115913>
- Wolfgramm, B., Shigaeva, J., & Dear, C. (2015). The Research–Action Interface in

- Sustainable Land Management in Kyrgyzstan and Tajikistan: Challenges and Recommendations. *Land Degradation & Development*, 26(5), 480–490. <https://doi.org/https://doi.org/10.1002/ldr.2372>
- Xue, S., Gao, J., Liu, C., Marhaba, T., & Zhang, W. (2023). Unveiling the potential of nanobubbles in water: Impacts on tomato's early growth and soil properties. *Science of The Total Environment*, 903, 166499. <https://doi.org/https://doi.org/10.1016/j.scitotenv.2023.166499>
- Yang, X., Zhang, Z., & Guo, X. (2023). Impact of soil structure and texture on occurrence of microplastics in agricultural soils of karst areas. *The Science of the Total Environment*, 902, 166189. <https://doi.org/10.1016/j.scitotenv.2023.166189>
- Yin, S., Gao, G., Huang, A., Li, D., Ran, L., Nawaz, M., Xu, Y. J., & Fu, B. (2023). Streamflow and sediment load changes from China's large rivers: Quantitative contributions of climate and human activity factors. *Science of The Total Environment*, 876, 162758. <https://doi.org/https://doi.org/10.1016/j.scitotenv.2023.162758>
- Zech, S., Schweizer, S. A., Bucka, F. B., Ray, N., Kögel-Knabner, I., & Prechtel, A. (2022). Explicit spatial modeling at the pore scale unravels the interplay of soil organic carbon storage and structure dynamics. *Global Change Biology*, 28(15), 4589–4604. <https://doi.org/10.1111/gcb.16230>
- Zhang, B.-X., Fu, X.-H., Shen, Y.-L., Zhang, Q.-H., & Deng, Z. (2021). Mineral Composition and Its Control on Nanopores of Marine-Continental Transitional Shale from the Ningwu Basin, North China. *Journal of Nanoscience and Nanotechnology*, 21(1), 168–180. <https://doi.org/10.1166/jnn.2021.18750>
- Zhang, Y., Ning, D., Wu, L., Yuan, M. M., Zhou, X., Guo, X., Hu, Y., Jian, S., Yang, Z., Han, S., Feng, J., Kuang, J., Cornell, C. R., Bates, C. T., Fan, Y., Michael, J. P., Ouyang, Y., Guo, J., Gao, Z., ... Zhou, J. (2023). Experimental warming leads to convergent succession of grassland archaeal community. *Nature Climate Change*, 13(6), 561–569. <https://doi.org/10.1038/s41558-023-01664-x>
- Zhong, R., Lyu, H., Kumari, M., Mishra, A. K., Jat, M. L., Dahlgren, R. A., Funakawa, S., & Watanabe, T. (2023). Contributions of fine mineral particles and active Al/Fe to stabilization of plant material in neutral-to-alkaline soils of Indo-Gangetic Plain. *Geoderma*, 440, 116709. <https://doi.org/https://doi.org/10.1016/j.geoderma.2023.116709>