



Reference

- Ahkami, A. H., White I. R. A., Handakumbura, P. P., and Jansson, C. 2017. Rhizosphere engineering: enhancing sustainable plant ecosystem productivity. *Rhizosphere* 3: 233–243.
- Al-Gheethi, A. A., Efaq, A. N., Bala, J. D., Norli, I., Abdel-Monem, M. O., & Ab. Kadir, M. O. (2018). Removal of pathogenic bacteria from sewage-treated effluent and biosolids for agricultural purposes. In *Applied Water Science* (Vol. 8, Issue 2). Springer Verlag. <https://doi.org/10.1007/s13201-018-0698-6>
- Amini, S., and Syamdidi. 2006. Concentration of nutrients in media and growth of *Chlorella vulgaris* with inorganic fertilizers technical and analysis. *Fisheries Journal* 8 (2): 201-206
- Anggraini, W., I. Fiteriani., Nur, N. P., Fri, R., A. Susanti., and E. Septiyani. 2021. The effect of organic fertilizers and inorganic fertilizer on mustard growth in Bahway village, Balik Bukit district, West Lampung regency. *Journal of Physics: Conference Series* 1796.
- Bian, R., Sun, Y., Li, W., Ma, Q., and Chai, X. 2017. Co-composting of municipal solidwaste mixed with matured sewage sludge: The relationship between N₂O emissions and denitrifying gene abundance. *Chemosphere*. 189: 581–589.
- Banerjee, A., Sanyal, S., and Sen, S. 2012. Soil phosphatase activity of agricultural land: a possible index of soil fertility. *Agricultural Science Research Journal* 2 (7): 412-419.
- Barroso, C. B., & Nahas, E. (2005). The status of soil phosphate fractions and the ability of fungi to dissolve hardly soluble phosphates. *Applied Soil Ecology*, 29(1), 73–83. <https://doi.org/10.1016/j.apsoil.2004.09.005>
- Bedada, W. 2015. Compost and fertilizer: Alternatives or complementary? Management feasibility and long-Term effects on soil fertility in an Ethiopian Village. Doctoral Thesis. Swedish University of Agricultural Sciences.
- Brady NC. (1990). Phosphorus and Potassium. *The Nature and Properties of Soils* 9th edition Macmillan Publishing Company.
- Bull, H., P.G. Murray., D. Thomas., A. M. Fraser., and P. N. Nelson. 2002. Acid phosphatase. *J. Clin. Pathol.* 55: 65-72.
- Cavell, A. J. 1955. The colorimetric determination of phosphorus in plant materials.
- Chang, S. C., & Jackson, M. L. (1958). Soil Phosphorus Fractions In Some Representative Soils 1. *Journal of Soil Science*, 9(1), 109–119. <https://doi.org/10.1111/j.1365-2389.1958.tb01903.x>
- Chhabra, S., Brazil, D., Morrissey, J., Burke, J. I., O’Gara, F., & N. Dowling, D. (2013). Characterization of mineral phosphate solubilization traits from a barley rhizosphere soil functional metagenome. *MicrobiologyOpen*, 2(5), 717–724. <https://doi.org/10.1002/mbo3.110>
- Cordell, D.; Drangert, J.O.; White, S. The story of phosphorus: Global food security and food for thought. *Glob. Environ. Chang.* 2009, 19, 292–305.
- Fabre, F., and Claude, P. 2000. Nitrogen nutrition, yield and protein content in soybean. *Plant Science* 152: 51-58.
- Fang, P., David, A., Guanghua, L., Ali, S., and Quan, Q. 2021. Substituting organic fertilizer for chemical fertilizer: evidence from apple growers in China. *Land* 10 (858): 1-24.
- Fukai, S., & Wade, L. J. (2021). Chapter 2 - Rice. In V. O. Sadras & D. F. Calderini (Eds.), *Crop Physiology Case Histories for Major Crops* (pp. 44–97). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-12-819194-1.00002-5>
- Gianfreda, L. 2015. Enzymes of importance to rhizosphere processes. *Journal of Soil Science and Plant Nutrition* 15 (2): 283-306.
- Hartatik, W., and L. R. Widowati. 2006. *Manure: Organic Fertilizer and Biological Fertilizer*. Agricultural Research and Development Agency.



- Iqbal, Asif., Dong Qiang, Wang Xiangru, Gui Huiping, Zhang Hengheng , Zhang Xiling and Song Meizhen. 2023. Phosphorus and carbohydrate metabolism contributes to low phosphorus tolerance in cotton. *BMC Plant Biology* 23:97
- Joint Food Agriculture Organization (FAO) / World Health Organization (WHO). 2017. Food Standards Programme Codex Committee on Contaminants in Foods.
- Kanteraki, A. E., Isari, E. A., Svarnas, P., & Kalavrouziotis, I. K. (2022). Biosolids: The Trojan horse or the beautiful Helen for soil fertilization? In *Science of the Total Environment* (Vol.839).Elsevier B.V. <https://doi.org/10.1016/j.scitotenv.2022.156270>
- Kautz, T., W. Amelung., F. Ewert., T. Gaiser., R. Horn., R. Jahn., M. Javaux., A.Kemna., Y. Kuzyakov., J. Munch., S. Patzold., S. Peth., H. W. Scherer., M. Schlöter., H. Schneider., J. Vanderborght., D. Vetterlein., A. Walter., G. L. B. Wiesenberger., and U. Kopke. 2013. Nutrient acquisition from arable subsoils in temperate climates. *Soil Biology and Biochemistry*: 1003-1022.
- Khaerunnisa, A., Arifah, R., Sjarif, A. A. 2015. Comparison of growth and production of edamame soybean (*Glycine max* (L.) Merr.) with various dosages of organic and synthetic fertilizers. *Journal of Agronida* 1 (1): 11-20.
- Journal of Science Food Agriculture 6: 479.
- Kehrein, P., Van Loosdrecht, M., Osseweijer, P., Garfí, M., Dewulf, J., and Posada, J. 2020. A critical review of resource recovery from municipal wastewater treatment plants-market supply potentials, technologies and bottlenecks. *Environmental Science: Water Research and Technology*. 6(4): 877–910.
- Larsen, S. (1967). Soil Phosphorus (pp. 151–210). [https://doi.org/10.1016/S0065-2113\(08\)60735-X](https://doi.org/10.1016/S0065-2113(08)60735-X)
- López-Arredondo, D. L., M. A. Leyva-González, S. I. González-Morales, J. López-Bucio, and L. Herrera-Estrella. 2014. “Phosphate Nutrition: Improving Low-Phosphate Tolerance in Crops.” *Annual Review of Plant Biology* 65: 95–123. doi:10.1146/annurev-arplant-050213-035949.
- Margalef, O., J. Sardans., M. Fernandez-Martinez., R. Molowny-Horas., I. A. Janssens., P. Ciais., D. Goll., A. Richter., M. Obersteiner., D. Asensio., and J. Penuelas. 2017. Global patterns of phosphatase activity in natural soils. *Scientific Reports* 7 (1337): 1-13.
- Matsuyama, N., S. Karim., C. Sasaki., M. Aoyama., F. Seito., H. Fujisiwa., and M. Saigusa. 2012. Chemical and physical properties of Andosols in Aomori Prefecture described in a soil survey report on reclaimed land. *Journal of Agronomy* 11(3): 73-78.
- McNear, D. H. 2013. The rhizosphere-roots, soil and everything in between. *Nature Education Knowledge* 4 (3): 1.
- Mohammad, B. T., Hala, I. D., Atef, J., Saleh, A., and Christian, K. 2017. Isolation and characterization of thermophilic bacteria from Jordanian hot springs: *Bacillus licheniformis* and *Thermomonas hydrothermalis* isolates as potential producers of thermostable enzymes. *International Journal of Microbiology*: 1-12.
- Newman, E. I. (1966). A Method of Estimating the Total Length of Root in a Sample. *The Journal of Applied Ecology*, 3(1), 139. <https://doi.org/10.2307/2401670>
- Niu, Y., Chai, R., Jin, G., Wang, H., Tang, C., and Zhang, Y. 2012. Responses of root architecture development to low phosphorus availability: a review. *Annals of Botany* 112: 391–408.
- Nleya, T., P. Sexton., K. Gustafson., and J. M. Miller. 2019. Soybean Growth Stages. In *book iGrow Soybean: Best Management Practices for Soybean Production*. South Dakota State University Extension.
- Noordwijk, M., and Kurniatun, H. 2006. Agricultural intensification, soil biodiversity and agro-ecosystem function. *Agrivita* 28 (3).



- Nurjannah, E., Sumardi., and Prasetyo. 2020. Provision of management as soil improvement for the growth and results of melon (*Cucumis melo* L.) in Ultisol. Indonesian Journal of Agriculture Sciences 22 (1): 23-30.
- Nuryani, E., G. Haryono., and Historiwati. 2019. The effect of dosage and time of giving P fertilizer on the upland type of beans (*Phaseolus vulgaris*, L.). Journal of Tropical and Subtropical Agricultural Sciences 4 (1): 14-17.
- Paulin, B., and Peter, O'M. 2008. Compost production and use in horticulture. Western Australian Agriculture Authority Bulletin 4746.
- Permadi, K., and Yati, H. 2015. Application of N, P, and K fertilizers based on site-specific nutrient management to increase soybean productivity. Agrotrop 5(1): 1-8.
- Saigusa, M., M. Toma., and M. Nanzyo. 1996. Alleviation of subsoil acidity in nonallophanic Andosols by phosphogypsum application in topsoil. Soil Science Plant Nutrition 42 (2): 221-227.
- Savage, J., Theodore, C., and James, D. M. 1973. Population changes in enteric bacteria and other microorganisms during aerobic thermophilic windrow composting. Applied Microbiology 26 (6): 969-974.
- Savci, S. 2012. An agricultural pollutant: chemical fertilizer. International Journal of Environmental Science and Development 3 (1): 77-80.
- Schachtman, Daniel P., Robert J. Reid, and S.M. Ayling., 1998. Phosphorus Uptake by Plants: From Soil to Cell. Plant Physiol. Vol. 116
- Setyorini, D., Rasti, S., and E. K. Anwar. 2006. Compost. In Simanungkalit, R. D. M., Didi, A. S., Rasti, S., Diah, S., and Wiwiek, H. Organic Fertilizer and Biological Fertilizer. Center for Agricultural Research and Development, Bogor : 11-40.
- Shrivastava, M., Srivastava, P. C., & D'Souza, S. F. (2018). Phosphate-Solubilizing Microbes: Diversity and Phosphates Solubilization Mechanism. In *Role of Rhizospheric Microbes in Soil* (pp. 137–165). Springer Singapore. https://doi.org/10.1007/978-981-13-0044-8_5
- Silva Leandro Israel da., Marlon Correa Pereira, André Mundstock Xavier de Carvalho, Victor Hugo Buttrós, Moacir Pasqual and Joyce Dória., 2023. Phosphorus-Solubilizing Microorganisms: A Key to Sustainable Agriculture. Agriculture, 13, 462.
- Smith, S. E., & Read, D. J. (2010). Mycorrhizal symbiosis. Academic press.
- Sumbayak, R. J., and Rianto, R. G. 2020. The effect of phosphate fertilizer and organic fertilizer on growth and yield soybean (*Glycine max* L. Merrill). Journal of Darma Agung 28 (2): 253-268.
- Sun, X. K., Huang, Y., Dong, X., Xu, C. B., & Bai, J. (2016). A Study on Nutrient Properties and Heavy Metal Concentrations of Waste Activated Sludge Derived from Municipal and Small Town Domestic Sewage Treatment Plants. Proceedings of the 2015 International Conference on Materials Chemistry and Environmental Protection (Meep-15), 139–141. <https://doi.org/10.2991/meep-15.2016.37>
- Tawaraya, Keitaro., 2022. Response of mycorrhizal symbiosis to phosphorus and its application for sustainable crop production and remediation of environment. Soil science and plant nutrition 2022, vol. 68, no. 2, 241–245
- USDA. 2022. Keys to Soil Taxonomy, 13th ed. U.S Department of Agriculture Natural Resources Conservation Service.
- Walling, E., & Vaneekhaute, C. (2020). Greenhouse gas emissions from inorganic and organic fertilizer production and use: A review of emission factors and their variability. In *Journal of Environmental Management* (Vol. 276). Academic Press. <https://doi.org/10.1016/j.jenvman.2020.111211>
- Wang, J., Wang, G. G., Zhang, B., Yuan, Z., Fu, Z., Yuan, Y., Zhu, L., Ma, S., & Zhang, J. (2019). Arbuscular Mycorrhizal Fungi Associated with Tree Species in a Planted Forest of Eastern China. Forests, 10(5), 424. <https://doi.org/10.3390/f10050424>



- Wijesekara, H., Bolan, N. S., Kumarathilaka, P., Geekiyanage, N., Kunhikrishnan, A., Seshadri, B., Saint, C., Surapaneni, A., & Vithanage, M. (2016). Chapter 3 - Biosolids Enhance Mine Site Rehabilitation and Revegetation*. In M. N. V Prasad & K. Shih (Eds.), *Environmental Materials and Waste* (pp. 45–71). Academic Press.
<https://doi.org/https://doi.org/10.1016/B978-0-12-803837-6.00003-2>
- Yoshida, S. (1981). *Fundamentals of Rice Crop Science*. International Rice Research Institute.
<https://books.google.co.id/books?id=wS-teh0I5d0C>