

## DAFTAR PUSTAKA

- Acosta, J.A., Arocena, J.M., and Faz, A., 2015, Speciation of Arsenic in Bulk and Rhizosphere Soils from Artisanal Cooperative Mines in Bolivia, *Chemosphere*, 138, 1014-1020.
- Adriano, D.C., 1986, *Trace Elements in the Terrestrial Environment*, Springer-Verlag, New York.
- Alloway, B.J., 2008, *Zinc in Soils and Crop Nutrition*, 2<sup>nd</sup> Ed., IZA and IFA Brussels, France.
- Aryanto, D.P., 2006, *Ikatan Antara Asam Organik Tanah dengan Logam*, UNS, Surakarta.
- Bassi, R., Prasher, S.O., and Simpson, B.K., 2000, Extraction of Metals from a Contaminated Sandy Soil Using Citric Acid, *Environ. Prog.*, 19(4), 275-282.
- Basu, N., Clarke, E., Green, A., Calys-Tagoe, B., Chan, L., Dzodzomenyo, M., Fobil, J., Long, R.N., Neitzel, R.I., Obiri, S., and Ode, E., 2015, Integrated Assessment of Artisanal and Small-scale Gold Mining in Ghana-Part 1: Human Health Review, *Int. J. Environ. Res. Public Health*, 12, 5143-5176.
- Bradl, H.K., 2004, Adsorption of Heavy Metal Ion on Soils and Soils Constituents, *J. Col. Int. Sci.*, 277, 1-18.
- Chen, Y.X., Lin, Q., Luo, Y.M., He, Y.F., Zhen, S.J., Yu, Y.L., Tian, G.M., and Wong, M.H., 2003, The Role of Citric Acid on the Phytoremediation of Heavy Metal Contaminated Soil, *Chemosphere*, 50, 807-811.
- Cobbina, S.J., Duwiejuah, A., Quansah, R., Obiri, S., and Bakobie, N., 2015, Comparative Assessment of Heavy Metals in Drinking Water Sources in Two Small-scale Mining Communities in Northern Ghana, *Int. J. Environ. Res. Public Health*, 12, 10620-10634.
- D'amore, J.J., Al-abed, S.R., Scheckel, K.G., and Ryan, J.A., 2005, Methods of Speciation of Metals in Soils, *J. Environ. Qual.*, 34(5), 1707-1745.
- Dyrtrova, J.J., Sestakova, I., Jakl, M., and Navratil, T., 2009, Electrochemical Detection of Cadmium and Lead Complexes with Low Molecular Weight Organic Acids, *Electroanal*, 21(3-5), 573-579.
- Elick, M.J., Peak, J.D., Brady, P.V., and Pesek, J.D., 1999, Kinetics of Pb Absorption Desorption on Geothite: Residence Time Effect, *Soil. Sci.*, 164, 28-39.
- Essumang, D., K., Dodoo, D. K., Obiri, S., and Yaney, J. Y., 2007, Arsenic, Cadmium, and Mercury in Cocoyam (*Xanthosoma sagittolium*) and

- Water Cocoyam (*Colocasia esculenta*) in Tarkwa, a Mining Community, *Bull. Environ. Contam. Toxicol.*, 79, 377-379.
- Evangelou, M.W.H., Ebel, M., and Schaeffer, A., 2006, Evaluation of the Effect of Small Organic Acids on Phytoextraction of Cu and Pb from Soil with Tobacco *Nicotina tabacum.*, *Chemosphere*, 63(6), 996-1004.
- Fabiatti, G., Biasioli, M., Barberis, R., and Ajmone-Marsan, F., 2010, Soil Contamination by Organic and Inorganic Pollutans at the Regional Scale: the Case of Piedmont Italy, *J. Soils Sediments*, 10, 290-300.
- Fardiaz, S., 1992, *Mikrobiologi Pangan*, Departemen Pendidikan dan Kebudayaan PAU Pangan dan Gizi, Institut Pertanian Bogor.
- Foy, C.D., Chaney, R.L., and White, M.C., 1978, The Physiology of Metal Toxicity in *Plants*, *Plant Physiol. J.*, 29, 511-566.
- Gavriloaiei, T., 2012, The Influence of Electrolyte Solutions on Soil pH Measurements, *Rev. Chim. (Bucharest)*, 63(4), 396-400.
- Gayer, R.A., 1986, *Toxic Effects of Metal*, Mc Millan Publishing, New York.
- Glover, L.J., Eick, M.J., and Brady, P.V., 2002, Desorption Kinetics of Cadmium(2+) and Lead(2+) from Geothite: Influence of Time and Organic Acids, *J. Environ. Qual.*, 66, 797-804.
- Gomes, P.C., Fontes, M.P.F., da Silva, A.G., Mendonca, E.S., and Netto, R.A., 2001, Selectivity Sequence and Competitive Adsorption of Heavy Metals by Brazilian Soils, *Soil Sci. Soc. Am. J.*, 65, 1115-1121.
- Haliru, H.A., Ling, L., and Selaman, O.S., 2014, Environmental Burden of Heavy Metal Contamination Levels in Soil from Sewage Irrigation Area of Geriyo Catchment, Nigeria, *Civ. Environ. Research*, 6(10).
- Hanson, R., Dodoo, D. K., Essumang, D. K., BlayJr, J., and Yankson, K., 2007, The Effect of some Selected Pesticides on the Growth and Reproduction of Fresh Water *Oreochromis niloticus*, *Chrysichthys nigrodigitatus* and *Clarias gariepinus*, *Bull. Environ. Contam. Toxicol.* 79:544-547.
- Hindarti, D., 1997, *Metode Uji Toksisitas*, Pusat Penelitian dan Pengembangan Oseanografi Lembaga Ilmu Pengetahuan Indonesia (P3O LIPI), Jakarta, 171-184.
- Huang, J., Yuan, F., Zeng, G., Li, X., Gu, Y., Shi, L., Liu, W., and Shi, Y., 2017, Influence of pH on Heavy Metal Speciation and Removal from Wastewater using Micellar-enhanced Ultrafiltration, *Chemosphere*, 173, 199-206.

- Inaba, S., and Takenaka, C., 2005, Effects of Dissolved Organic Matter on Toxicity and Bioavailability of Copper for Lettuce Sprouts, *Environ. Inter.*, 31 (4), 603-608.
- Islam, S., Achmed, K., dan Al-Mamun, H., 2014, Heavy Metals in Cereals and Pulses: Health Implications in Bangladesh, *J. Agric. Food Chem.*, 62, 10828-10835.
- Iyaka, Y.A., 2011, Nickel in Soils: A Review of Its Distribution and Impacts, *Sci. Res. Essays*, 6, 6774-6777.
- Jiang, H., Li, T., Han, X., Yang, X., and He, Z., 2012, Effects of pH and Low Molecular Weight Organic Acids on Competitive Sorption and Desorption of Cadmium and Lead in Paddy Soils, *Environ. Monit. Assess.*, 184, 6325-6335.
- Kabata-Pendias, A., and Mukherjee, A.B., 2007, *Trace Elements from Soil to Human*, Springer-Verlag Berlin Heidelberg, New York.
- Kabata-Pendias, A., and Sadurski, W., 2004, *Trace Elements and Compounds in Soil*, 2<sup>nd</sup> ed, Wiley-VCH, Weinheim.
- Kathryn, L., Hass, and Katherine, J.F., 2009, Application of Metal Coordination Chemistry to Explore and Manipulate Cell Biology, *Chem. Rev.*, 109(10), 4921-4960.
- Khan, A., Kuek, C., Chaundhry, T., Khoo, C., and Hayes, W., 2000, Role of Plants, Mycorrhizae and Phytochelators in Heavy Metal Contaminated Land Remediation, *Chemosphere*, 41(1-2), 197-207.
- Krishnamurti, G.S.R., Ceslinski, G., Huang, P.M., Vam Rees, K.C.J., 1997, Kinetics of Cadmium Release from Soils as Influenced by Organic Acids: Implication in Cadmium Availability, *J. Environ. Qual.*, 26, 271-277.
- Liu, K., 2017, Characterization of Ash in Algae and Other Materials by Determination of Wet Acid Indigestible Ash and Microscopic Examination, *Algal Research*, 25, 307-321.
- Lu, H.L., Yan, C.L., and Liu, J.C., 2007, Low-Molecular-Weight Organic Acids Exuded by Mangrove (*Kandelia candel* (L.) Druce) roots and their Effects on Cadmium Species Change in the Rhizosphere, *Environ. Exp. Bot.*, 61(2), 159-166.
- Lu, S.G., and Xu, Q.F., 2009, Competitive Adsorption of Cd, Cu, Pb, and Zn by Different Soils of Eastern China, *Environ. Geol.*, 57, 685-693.
- Mico, C., Recatala, L., Peris, M., and Sanchez, J., 2006, Assessing Heavy Metals Sources in Agricultural Soils of an European Mediterranean Area by Multivariate Analysis, *Chemosphere*, 65, 863-872.

- Miller, R.O., and Kissel, D.E., 2010, Comparison of Soil pH Methods on Soils of North America, *Soil Sci. Soc. Am. J.*, 74, 310-316.
- Mukherjee, A.B., and Hartikainen, H., 2002, Emissions and Occurrence of Zinc in Europe with Special Reference to its Behaviour in Soil, Water and Plants, *Polish. Acad. Sci.*, 19-28.
- Naidu, R., and Harter, R.D., 1998, Effect of Different Organic Ligands on Cadmium Sorption and Extractability from Soils, *Soil Sc. Soc. Am. J.*, 62(3), 644-650.
- Nascimento, C.W.A., Amarasiriwardena, D., and Xing, B., 2006, Comparison of Natural Organic Acids and Synthetic Chelates at Enhancing Phytoextraction of Metals from a Multi-Metal Contaminated Soil, *Environ. Pollut.*, 140, 114-123.
- Obiri, S., 2007, Determination of Heavy Metals in Boreholes in Dumasi in the Wassa West District of Western Region of the Republic of Ghana, *Environ. Monit. Assess.*, 130, 455-463.
- Obiri, S., Yeboah, P.O., Osa, S., Adu-kumi, S., Cobbina, S.J., Armah, F.A., Ason, B., Antwi, E., and Quansah, R., 2016, Human Health Risk Assessment of Artisanal Miners Exposed to Toxic Chemicals in Water and Sediments in the PresteaHuni Valley District of Ghana, *Int. J. Environ. Res. Public Health*, 12, 139.
- Powell, K.J., Brown, P.L., Byrne, R.H., Gajda, T., Hefter, G., Leuz, A., Sjoberg, S., and Wanner, H., 2009, Chemical Speciation of Environmentally Significant Metals with Inorganic Ligands. Part 3 : The  $Pb^{2+} + OH^-$ ,  $Cl^-$ ,  $CO_3^{2-}$ ,  $SO_4^{2-}$ , and  $PO_4^{3-}$  Systems (IUPAC Technical Report)\*, *Pure Appl. Chem.*, 81(12), 2425-2476.
- Powell, K.J., Brown, P.L., Byrne, R.H., Gajda, T., Hefter, G., Leuz, A., Sjoberg, S., and Wanner, H., 2013, Chemical Speciation of Environmentally Significant Metals with Inorganic Ligands. Part 3 : The  $Zn^{2+} + OH^-$ ,  $Cl^-$ ,  $CO_3^{2-}$ ,  $SO_4^{2-}$ , and  $PO_4^{3-}$  Systems (IUPAC Technical Report)\*, *Pure Appl. Chem.*, 85(12), 2249-2311.
- Provazi, M.J.G.K., Dall'Antonia, L.H., Cordoba de Torresi, S.I., 2001, The Effect of Cd, Co, and Zn as Additives on Nickel Hydroxide Opto-electrochemical Behaviour, *J. Power. Sources*, 102, 224-232.
- Qin, F., Shan, X.Q., and Wei, B., 2004, Effects of Low-Molecular-Weight Organic Acids and Residence Time on Desorption of Cu, Cd, and Pb from Soils, *Chemosphere*, 57(4), 253-263.
- Rajae, M., Sánchez, B.N., Renne, E.P., and Basu, N., 2015, An Investigation of Organic and Inorganic Mercury Exposure and Blood Pressure in a Small-

- scale Gold Mining Community in Ghana, *Int. J. Environ. Res. Public Health*, 12, 10020-10038.
- Rand, G.M., 1980, *Detection Bioassay in F.E. Guthiye and J.J Perry (eds), Introduction to Environmental Toxicology*, Elsevier, New York.
- Rand, G.M., and Petrocelli, S.R., 1985, *Fundamental of Aquatic Toxicology: Methods and Applications*, Hemisphere Publishing Company, New York.
- Romkens, P. F. and Dolfing, J., 1998, Effect of Ca on the Solubility and Molecular Size Distribution of DOC and Cu Binding in Soil Solution Samples, *Environ. Sci. Technol.*, 32, 363-369.
- Setiabudi, B.T., 2005, Penyebaran Merkuri Akibat Usaha Penambangan Emas di Daerah Sangon, Kabupaten Kulon Progo, D.I. Yogyakarta, *Kolokim Hasil Lapanan-DIM*.
- Sillanpaa, M., and Jansson, H., 1992, *Status of Cadmium, Lead, Cobalt, and Selenium in Soils and Plants of Thirty Countries*, FAO Soils Bull 65, Rome.
- Singh, N., Koku, J.E., and Balfors, B., 2007, Resolving Water Conflicts in Mining Areas of Ghana Through Public Participation A Communication Perspective, *Journal of Creative Communications*, 2, 361-382.
- Stoyanova, Z., and Doncheva, S., 2002, The Effect of Zinc Supply and Succinate Treatment on Plant Growth and Mineral Uptake in Pea Plant, *Braz. J. Plant. Physiol.*, 14(2).
- Stratton, G.W., 1987, The effects of Pesticides and Heavy Metals towards Phototrophic Microorganism, *Rev. Environ. Toxicol*, 3, 71-147.
- Suave, S., Hendershot, W., and Allen, H.E., 2000, Solid-Solution Partitioning of Metals in Contaminated Soils: Dependence on pH, Total Metal Burden, and Organic Matter, *Environ. Sci. Technol.*, 34, 1125-1131.
- Suherman, Schmidt, C., Kolb, M., Zachmann, D., and Bahadir, M., 2013, Partitioning of Copper and Lead between Solid and Dissolved Organic Matter in a Humus Rich Soil of the Harz Mountains (Germany) and Ecotoxicity Test with *Lepidium Sativum*, *Fresen. Environ. Bull.*, 22(2), 318-327.
- Sun, Y., Xie, Z., Li, J., Xu, J., Chen, Z., and Naidu, R., 2006, Assessment of Toxicity of Heavy Metal Contaminated Soils by the Toxicity Characteristic Leaching Procedure, *Environ. Geochem. Health*, 28, 73-78.
- Tan, K.H., 2011, *Principles of Soil Chemistry*, 4<sup>th</sup> Ed., Taylor and Francis Group, LLC, Boca Raton.

- Tarras-Wahlberg, N., Flachier, A., Lane, S.N., and Sangfors, O., 2001, Environmental Impacts and Metal Exposure of Aquatic Ecosystems in Rivers Contaminated by Small Scale Gold Mining: the Puyango River Basin, Southern Ecuador, *Sci. Total. Environ.*, 278, 239-261.
- Tye, A.M., Young, S., Crout, N.M.J., Zhang, H., Preston, S., Zhao, F.J., and McGrath, S.P., 2004, Speciation and Solubility of Cu, Ni, and Pb in Contaminated Soils, *Eur. J. Soil Sci.*, 55, 579-590.
- Verheye, W.H., 2009, *Land Use, Land Cover and Soil Sciences: Land Use Management and Case Studies*, Eolss Publishers Co. Ltd., Oxford.
- Voglar, D., and Lestan, D., 2013, Pilot-scale Washing of Pb, Zn, and Cd Contaminated Soil Using EDTA and Process Water Recycling, *Chemosphere*, 91, 76-82.
- Wang, C. R., Tian, Y, Wang, X. R., Yu, H. X., Lu, X. W., Wang, C., and Wang, H., 2010, Hormesis Effects and Implicative Application in Assessment of Lead Contaminated Soils in Roots of *Vicia Faba* Seedlings, *Chemosphere*, 80 (9), 965-971.
- Wu, R.K., and Ji, G.L., 2003, Effet of Anions of Low-Molecular-Weight Organic Acids on Adsorption and Desorption of Aluminum by and from a Kaolinite at Different pH, *Soil Sci.*, 168(1), 39-44.
- Xin, K.E., Pei-jun, L., Qi-xing, Z., Yun, Z., and Tie-heng, S., 2006, Removal of Heavy Metals from a Contaminated Soil Using Tartaric Acid, *J.Environ.Sci.*, 18(4), 727-733.
- Yang, J.Y., Yang, X.E., He, Z.L., Li, T.Q., Shentu, J.L., and Stoffella, P.J., 2006, Effects of pH, Organic Acids, and Inorganic Ions on Lead Desorption from Soils, *Environ. Pollut.*, 143, 9-15.
- Yao-guo, W.U., You-ning, X.U., Jiang-hua, Z., and Si-Hai, H.U., 2010, Evaluation of Ecological Risk and Primary Empirical Research on Heavy Metals in Polluted Soil over Xiaoqinling Gold Mining Region, Shaanxi, China, *Trans. Nonferrous Met. Soc. China*, 20, 688-694.
- Yuan, S., Xi, Z., Jiang, Y., Wan, J., Wu, C., Zheng, Z., and Lu, X., 2007, Desorption of Copper and Cadmium from Soils Enhanced by Organic Acids, *Chemosphere*, 68(7), 1289-1297.
- Zhang, L., and Wong, M.H., 2007, Environmental Mercury Contamination in China: Sources and Impacts, *Environ Inter*, 33, 108-121.
- Zhao, P., Feng, Y., Zhu, T., and Wu, J., 2006, Characterizations of Resuspended Dust in Six Cities of North China, *Atmos. Environ.*, 40, 5807-5814.