

REFERENCES

- Adamson, A. B., 1990, Physical Chemistry of Surface, edisikelima, John Wiley and Sons, New York.
- Al-Duri, B., 1995, A Review in Equilibrium in Single and Multicomponent Liquid Adsorption System, *Review in Chem. Eng.*, 11, 101-143.
- Andjelković, D.H., Andjelković, T.D., Nikolić, R.S., Purenović, M.M., Blagojević, S.D., Bojić, L.J. and Ristić, M.M., 2012, Leaching of Chromium from Chromium Contaminated Soil-A Speciation Study and Geochemical Modelling, *J. Serb. Chem. SOX.*, 77(1), 119-129.
- Babu, M., Reddy, C., Subramanyam, A., and Balaguravaiah, 2007, Effect of Integrated Use of Organic and Inorganic Fertilizers on Soil Properties and Yield of Sugarcane, *Soil Sci. Soc. Indian J.*, 55(2), 161-166.
- Bashan, Y., Kim, Y.C., Glick, B.R. and Ryu, C.M., 2012. Enhancement of plant drought tolerance by microbes. In Plant responses to drought stress (pp. 383-413). Springer, Berlin, Heidelberg.
- Bastian, F., Ishak, E., Tawali, B., and Bilang, M., 2013, Daya terima dan kandungan zat gizi formula tepung tempe dengan penambahan semi refined carrageenan (SRC) danbubukkakao, *J. Apl. Teknol. Pangan*, 2, 5–8.
- Birry, A. dan Meutia, H., 2012, Bahan Beracun LepasKendali, Sebuah potret pencemaran Bahan Kimia Berbahaya dan Beracun di Badan sungai serta beberapa titik pembuangan industry tak bertuan, *Jawa Barat: Greenpeace Asia Tenggara dan Walhi*.
- de Brogniez, D., Ballabio, C., Stevens, A., Jones, R.J.A., Montanarella, L., and van Wesemael, B., 2015, A map of the topsoil organic carbon content of Europe generated by a generalized additive model, *Eur. J. Soil Sci.*, 66, 121–134.
- Brunetto, G., Ferreira, A.A., Tiecher, T., Tiecher, T.L., de Melo Rangel, W., Soares, F.S., Deuner, S., Tarouco, C.P., Giachini, A.J., Nicoloso, F.T., 2018, Effects of *Rhizophagus clarus* and P availability in the tolerance and physiological response of *Mucuna cinereum* to copper. *Plant Physiol. Biochem.*, 122, 46–56.
- Chorover, J. and Brusseau, M., 2008, Kinetics of Water-Rock Interaction, Springer, New York.

- Ekholm, P., Virkki, L., Ylinen, M., dan Johansson, L., 2003, The Effect of Phytic Acid and Some Natural Chelating Agents on Solubility of Mineral Elements in Aot Bran, *Food Chem.*, 80(2), 165-170.
- Gardea-Torresdey, J., Peralta-Videa, J., Montes, M., De la Rosa, G., dan Corral-Diaz, B., 2004, Biaccumulation of Cadmium, Chromium, and Copper by *Convolvuluservensis* L: Impact on Plant Growth and Uptake of Nutritional Elements, *Bioresour. Technol.*, 92, 229-235.
- Gavriloaiei, T., 2012, The Influence of Electrolyte Solutions on Soil pH Measurements, *Rev. Chim. (Bucharest)*, 63(4), 396-400.
- Ghaly, A.E., Ananthashankar, R., Alhattab, M.V. and Ramakrishnan, V.V., 2014, Production, characterization and treatment of textile effluents, *a critical review. J ChemEng Process Technol*, 5(1), 1-18.
- Darmono, 1995, *Logamdalam system biologimakhlukhidup*, Universitas Indonesia Press, Jakarta.
- Handoko, C. T., Yanti, T. B., Syadiyah, H., dan Marwati, S., 2013, Penggunaan MetodePresipitasi untuk Menurunkan Kadar Cu dalam Limbah Cair Industri Perak di Kotagede, *Jurnal Penelitian Saintek*, 18(2), 51-59.
- Hindarti, D., 1997, *Uji Toksisitas*, Pusat Penelitian dan Pengembangan Oseanografi Lembaga Ilmu Pengetahuan Indonesia (P3O LIPI), Jakarta.
- Hong, A.H., Ling, L.P., and Selaman, O.S., 2014, Environmental Burden of Heavy Metal Contamination Levels in Soil from Sewage Irrigation Area of GeriyoCatchment , Nigeria, *Civ. Environemnatl Res.*, 6, 118–125.
- Huang, J., Yuan, F., Zeng, G., Li, X., Gu, Y., Shi, L., dan Liu, W., 2017, Influence of pH on Heavy Metal Speciation an Removal from Waterwaste Using Micellar Enhanced Ultrafiltration, *Cemosphere*, 155, 395-404.
- Intara, Y., Sapei, A., Erizal, Sembiring, N., and Djoefrie, M., 2011, Pengaruh Pemberian Bahan Organik Pada Tanah Liatdan Lempung Berliat Terhadap Kemampuan Mengikat Air, *J. IlmuPertan. Indones.*, 16, 130–135.
- Jing Y, He Z, Yang X (2007) Role of soil rhizobacteria in phytoremediation of heavy metal contaminated soils, *J Zhejiang Univ Sci B*, 8(3),192–207.

- Jarup, L., 2003, Hazard of Heavy Metal Contamination, *British Medical Bulletin*, 68, 82-167.
- Javadian, H., 2014, Application of Kinetics, Isotherm, and Thermodynamic Models of The Adsorption of Co(II) Ions on Polyaniline/Polypyrrole Copolymer Nanofibers from Aqueous Solution, *J. Ind. Eng. Chem.*, 20, 4233-4241.
- Juneja, S. dan Prakash, S., 2005, The Chemical Form of Trivalent Chromium in Xylem Sap of Maize (*Zea mays* L.), *Chem. Speciat. Bioavailab.*, 17, 161-169.
- Karoba, F. and Nurjasmi, R., 2015, Pengaruh Perbedaan pH terhadap Pertumbuhan dan Hasil Tanaman Kailan (*Brassica oleraceae*) Sistem Hidroponik Nft (Nutrient Film Technique). *J. Il. Res.*, 6(2).
- Khim, H., Tow, T., Hakimi, M., and Ahmad, A., 2012, Adsorption and Removal of Zinc(II) from Aqueous Solution Using Powdered Fish Bones, *APCBEE Procedia*, 96-102.
- Komarawidjaja, W., 2016, Sebaran Limbah Cair Industri Tekstil dan Dampaknya di Beberapa Desa Kecamatan Rancaekek Kabupaten Bandung, *J. Tek. Ling.*, 17(2), 118-125.
- Lindamariana, C., 2020, Uji toksisitas logam seng dalam tanah sekitar bekas TPA Kadisoka terhadap pertumbuhan sawi (*Brassica juncea* L.) dan kangkung (*Ipomoea aquatica*), *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Liu, Y., Feng, L., Hu, H., dan Jiang, G., 2012, Phosphorus Release from Low-Grade Rock Phosphate by Low Molecular Weight Organic Acids, *J. Food Agric. Environ.*, 10(1), 1001-1007.
- Lu, S. G. dan Xu, Q. F., 2009, Competitive Adsorption of Cd, Cu, Pb, and Zn by Different Soils of Eastern China, *Environ. Geol.*, 57, 685-693.
- Mangkoedihardjo dan Samudro, G., 2009, *Ekotoksikologi Teknosfer*, Guna Widya, Surabaya.
- Manohar, D.M., Noeline, B.F. and Anirudhan, T.S., 2006, Adsorption performance of Al-pillared bentonite clay for the removal of cobalt (II) from aqueous phase. *J. App. Clay Sci.*, 31(3-4), 194-206.
- Martel, A. and Hancock, R., 1996, *Metal Complexes in Aqueous Solution*, Plenum Press, New York.

- Martin, S. and Griswold, W., 2009, Human health effects of heavy metals, *J. Environ. Sci. Tech.*, 15(1), 1-6.
- Mertens, J. and Smolders, E., 2013, *Heavy Metals in Soils: Trace Metals and Metalloids in Soils and their Bioavailability*, Springer Science & Business Media, Reading.
- Murniasih, S. dan Sukirno, 2012, Kajian Kandungan Logam B3 dalam Limbah RumahSakit Dibandingkan dengan Peraturan Pemerintah, *Prosiding Pertemuan dan Presentasi Ilmiah*, 1, 197-204.
- Nath, K., Kamlesh, Saini, S., dan Sharma, Y.K., 2005, Chromium in Tannery Industry Effluent and Its Effect on Plant Metabolism and Growth, *J. Environ. Biol.*, 26, 197-204.
- Oktavianti, F.F., 2020, Uji Toksisitas Kromium Total dalam Tanah Sekitar Industri Penyamakan Kulit Hewan di Yogyakarta Terhadap Kangkung dan Kacang Hijau, *Skripsi*, Universitas Gadjah Mada, Yogyakarta.
- Olayiwola, H.A., Abudulawal, L., Adewuyi, G.K. and Azeez, M.O., 2017, Heavy metal contents in soil and plants at dumpsites: A case study of Awotan and Ajakanga dumpsite Ibadan, Oyo State, Nigeria. *J Environ Earth Sci*, 7(4), 11-24.
- Ovelando, R., Nabilla, M. A., dan Surest, A. H., 2013, FermentasiBuahMarkisa (*Passiflora*) MenjadiAsamSitrat, *JurnalIlmu Teknik*, 10(8), 1-7.
- Pereira, F.V., Gurgel, L.V.A. and Gil, L.F., 2010. Removal of Zn^{2+} from aqueous single metal solutions and electroplating wastewater with wood sawdust and sugarcane bagasse modified with EDTA dianhydride (EDTAD). *J. Hazard.Mater.*, 176(1-3), 856-863.
- Phukan, P., Phukan, R. and Phukan, S.N., 2015, Heavy Metal Uptake Capacity of HydrillaVerticillata: A Commonly Available Aquatic Plant. *J. Environ. Sci.*, 4(3), 35-40.
- Rahmah, Ramlawati, danSumiati, S., 2013, Kapasitas Adsorpsi Tanah Diatomeae (Diatomaceous earth) Terhadap Ion Kromium(VI), *J. Chem.*, 1(12), 60-66.
- Rai, R., Agrawal, M. and Agrawal, S.B., 2016, *Impact of heavy metals on physiological processes of plants: with special reference to photosynthetic system. In Plant responses to xenobiotics*, Springer, Singapore.

- Rimbu, C., Vrinceanu, N., Broasca, G., Farima, D., Ciocoiu, M., Campagne, C., Suche, M.P. and Nistor, A., 2013, Zinc oxide application in the textile industry: surface tailoring and water barrier attributes as parameters with direct implication in comfort performance. *J. Tex. Res.*, 83(20), 2142-2151.
- Rismawati, S.I. 2012, Fitoremediasi Tanah Tercemar Logam Berat Zn Menggunakan Tanaman Jarak Pagar (*Jatropha curcas*). *Skripsi*. Jurusan Biologi Fakultas MIPA, Institut Teknologi Sepuluh Nopember, Surabaya.
- Rohaningsih, D. and Muntalif, B.S., 2015, Akumulasi Logam Timbal (Pb) Pada Kangkung Darat (*Ipomoea reptans* Poir). *J. Tek. Ling.*, 21(2), 159-168.
- Rout, G.R. and Das, P., 2009, *Effect of metal toxicity on plant growth and metabolism: I. Zinc. In Sustainable agriculture*, Springer, Dordrecht.
- Rubeumintara, T., 2014, Adsorptive Recovery of Au(III) from Aqueous Solution Using Modified Bagasse Biosorbent, *Int. J. Chem. Eng. App.*, 6(2), 95-100.
- Schonmetz, A., dan Gruber, K., 1985, *Pengetahuan bahan dalam pengerjaan logam: pengerjaan benda-benda setengah jadi pengertian dasar kimia, pengertian dasar fisik*, Angkasa, Bandung.
- Sembiring, E. dan E. Sulistyowati. (2006). Akumulasi Pb dan pengaruhnya pada kondisi daun *Swietenia macrophylla* King, *Makalah seminar nasional penelitian lingkungan di perguruan tinggi*, Institut Teknologi Bandung, Bandung.
- SenGupta, S. and Bhattacharyya, K.G., 2006, Adsorption of Ni (II) on Clays, *J. Coll. Int. Sci.*, 295, 21–32.
- Senthilkumar, R., Vijayaraghavan, K., Thilakavathi, M., Iyer, V.R. and Velan, M., 2006, Seaweeds for the remediation of wastewaters contaminated with zinc (II) ions. *J. Hazard. Mat.*, 136(3), 791-799.
- Serrano, S., Garrido, F., Campbell, C. G., dan Garcia-Gonzales, M. T., 2005, Competitive Sorption of Cadmium and Lead in Acid Soils of Central Spain, *Geoderma*, 124, 91-104.
- Setiawan, H., 2013, Akumulasi dan Distribusi Logam Berat pada Vegetasi Mangrove di Perairan Pesisir Sulawesi Selatan, *J. Il. Kehut.*, 7(1), 12-24.

- Shahid, M., Dumat, C., Aslam, M., and Pinelli, E., 2012, Assessment of Lead Speciation by Organic Ligands Using Speciation Models, *Chem. Spec. Bioavailad.*, 24, 248-252.
- Shenvi, S., Isloor, A., Ismail, A., Shilton, S., and Al Ahmed, A., 2015, Humic Acid Based Biopolymeric Membrane for Effective Removal of Methylene Blue and Rhodamine B, *Ind. Eng. Chem. Res.*, 54(18), 4965-4975.
- Shi, T., Chen, Y., Liu, Y. and Wu, G., 2014. Visible and Near Infrared Reflectance Spectroscopy an Alternative for Monitoring Soil Contamination by Heavy Metals. *J.Hazard. Mater.*, 265, 166-176.
- Shukla, O., Dubey, S., dan Rai, U., 2007, Preferential Accumulation of Cadmium and Chromium: Toxicity in *Bacopamonnieri* L. Under Mixed Metal Treatments, *Bull. Environ. Contam. Toxicol.*, 78, 252-257.
- Singh, K. P., Malik, A., Sinha, S., Singh, V. K., dan Murthy, R. C., 2005, Estimation of Source of Heavy Metal Contamination in Sediments of Gomti River (India) Using Principal Component Analysis, *Water Air Soil Pollut.*, 166, 321-341.
- Singh, S., Parihar, P., Singh, R., Singh, V.P. and Prasad, S.M., 2016, Heavy metal tolerance in plants: role of transcriptomics, proteomics, metabolomics, and ionomics. *Front. Pla. Sci.*, 6, p.1143.
- Sinulingga, N., Nurtjahja, K., dan Karim, A., 2015, FitoremediasilogamMerkuri (Hg) pada Media Air olehKangkung Air (*Ipomoea aquatica*Forsk.), *BIOLINK*, 2(1), 75-82.
- Stumm, W. and Morgan, J.J., 2012, *Aquatic Chemistry: Chemical Equilibria in Natural Water*, 3rd ed, John Willey and Sons Inc., New York.
- Suave, S., Hendershot, W., and Allen, H., 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., dan Bahadir, M., 2013, Partitioning of Copper and Lead Between Solid and Dissolved Organic Matter in a Humus-Rich Soil of the Harz Mountain (Germany) an Ecotoxicity Test with *Lepidium sativum*, Fresen. *Environ. Bull.*, 2013, 22(2), 318-327.

- Supriyanto, C. dan Muzzaky, 2010, Proses Desorpsi Logam berat pada Sedimen Sungai Daerah Muri dengan Pelarut Asam, *J. Iptek Nuklir Ganendra*, 13(1), 11-16.
- Tan, K. H., 2011, *Principles of Soil Chemistry*, 4th ed., Taylor and Francis Group LLC, Boca Raton.
- Verbič, A., Gorjanc, M. and Simončič, B., 2019. Zinc oxide for functional textile coatings: Recent advances. *Coatings*, 9(9), 550.
- Wang, L.K., Hung, Y.T., Lo, H.H. and Yapijakis, C., 2006, *Waste Treatment in the Food Processing Industry*, CRC Press.
- Wang, X., Li, Q., Hu, H., Zhang, T., dan Zhou, Y., 2005, Dissolution of Kaolinite Induced by Citric, Oxalic, dan Malic Acids, *J. Colloid Interface Sci.*, 290, 481-488.
- Wang, Z., Xu., Z., Zhao, J., Pan, B., Song, X., and Baosan, 2014, Effect of Low Molecular Weight Organic Acids on Soil Micropores and Implication for Organic Contaminant Availability, *Commun. Soil. Sci. Plant. Anal.*, 45, 1120-1131
- Widaningrum, Miskiyah dan Suismono, 2007, Bahaya kontaminasi logam berat dalam sayuran dan alternative pencegahan cemarannya, *Buletin Teknologi Pascapanen Pertanian*, 3, 16-27.
- Wuana, R.A. and Okieimen, F.E., 2011, Heavy Metals in Contaminated Soils: A Review of Sources, Chemistry, Risks and Best Available Strategies for Remediation, *ISRN Ecol.*, 2011, 1–20.
- Xin, K., 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., Yang, X., He, Z., Li, T., Shentu, J., and Stoffella, P., 2006, Effects of pH, Organic Acids and Inorganic Ions on Lead Desorption from Soils, *J. Environ. Pollut.*, 143, 9-15.
- Yadav, A., Prasad, V., Kathe, A.A., Raj, S., Yadav, D., Sundaramoorthy, C. and Vigneshwaran, N., 2006, Functional finishing in cotton fabrics using zinc oxide nanoparticles, *J. Material Sci.*, 29(6), 641-645.

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.

Zahro, N., 2013, *Analisis Mutu Pangandan Hasil Pertanian*, Universitas Jember, Jember.

Zeng, F., Ali, S., Zhang, H., Ouyang, Y., Qiu, B., Wu, F., and Zhang, G., 2011, The Influence of pH and Organic Matter Content in Paddy Soil on Heavy Metal Availability and Their Uptake by Rice Plants, *J. Environ. Pollut.*, 159, 84-91.