

## **Benny Chefetz -List of Publications**

### **1. Doctoral Dissertation**

- 1.1. **Chefetz**, B. Transformation of organic matter during composting of municipal solid waste, Supervisors: Prof. Yona Chen, Prof. Yitzhak Hadar. 1998. Ph.D. Thesis, 102 p. The Hebrew University of Jerusalem.

### **2. Chapters in collections**

- 2.1. Chen, Y., B. **Chefetz** and Y. Hadar. 1996. Formation and properties of humic substance originating from composts. pp. 382-393. *In*: M. de Bertoldi, P. Sequi, B. Lemmes and T. Papi (eds.) The Science of Composting. Blackie Academic & Professional, Glasgow.
- 2.2. Chen Y., Y. Inbar, B. **Chefetz** and Y. Hadar. 1997. Composting and recycling of organic wastes. pp. 339-360. *In*: Modern Agriculture and the Environment. D. Rosen, Y. Chen, E. Tel-Or and Y. Hadar (eds.). Kluwer Academic Publishers, London.
- 2.3. **Chefetz**, B., J. Tarchitzky, N. Benny, P.G. Hatcher, J. Bortiatynski and Y. Chen. 1998. Characterization and properties of humic substances originating from an activated sludge wastewater treatment plant. pp. 69-78 *In*: G. Davies and E. A. Ghabbour (eds.) Humic Substances, Structure, Properties and Uses. The Royal Society of Chemistry, Cambridge UK.
- 2.4. Cohen, R., B. **Chefetz**, Y. Chen and Y. Hadar. 1998. Suppression of soil-borne pathogens by composted municipal solid waste. pp. 113-130, *In*: S. Brown, J.S. Angle and L. Jacobs (eds.) Beneficial Co-utilization of Agricultural, Municipal and Industrial By-products. Kluwer Academic Publishers, The Netherlands.
- 2.5. Chen, Y., B. **Chefetz**, F. Adani, P. Genevini and Y. Hadar. 1998. Organic matter transformation during composting of municipal solid waste. pp. 795-804 *In*: J. Drozd, S.S. Gonet, N. Senesi and J. Weber (eds.) The Role of Humic Substances in The Environmental Protection. PTSH, Wroclaw Poland.
- 2.6. Chen, Y., B. **Chefetz** and Y. Hadar. 1999. Recycling of agricultural and municipal waste. pp. 1-10. Proceeding: International Symposium of Bio-Recycling/Composting in Sapporo. Sapporo Japan. Kuroto printing Co. Tokyo, Japan.
- 2.7. **Chefetz**, B., and P.G. Hatcher. 2004. Organic Matter transformations during mushroom growth and postcrop weathering. pp. 17-25, *In*: C.P. Romaine, C.B. Keil, D.L. Rinker and D.J. Royse (eds.) Science and Cultivation of Edible and Medicinal Fungi. The Pennsylvania State University, State Collage, USA.
- 2.8. Polubesova, T. and B. **Chefetz**. 2008. Sorption of herbicides and polycyclic aromatic hydrocarbons by Kishon River sediment. pp. 443-455, *In*: C. Dazzi and E. Costantini (eds.) The Soils of Tomorrow, Soils Changing in a Changing World - Advances in GeoEcology 39. CATENA VERLAG, Peiskirchen, Germany.
- 2.9. **Chefetz**, B., M. Shechter, O. Dorot and K. Stimler. 2009. Sorptive behavior of plant cuticular materials. pp. 237-261, *In*: F. Wu, B. Xing (eds.) Natural Organic Matter and its Significance in the Environment. Science Press, Beijing, China.

### **3. Articles in refereed journals**

- 3.1. **Chefetz, B., P.G. Hatcher, Y. Hadar and Y. Chen.** 1996. Chemical and biological characterization of organic matter during composting of municipal solid waste. *J. Environ. Qual.* 25:776-785.
- 3.2. **Chefetz, B., Z. Kerem, Y. Chen and Y. Hadar** 1998. Isolation and partial characterization of laccase from a thermophilic composted municipal solid waste. *Soil Biol. Biochem.* 30:1091-1098.
- 3.3. **Chefetz, B., P.G. Hatcher, Y. Hadar and Y. Chen.** 1998. Characterization of dissolved organic matter extracted from composted municipal solid waste. *Soil Sci. Soc. Am. J.* 62:326-332.
- 3.4. **Chefetz, B., Y. Hadar and Y. Chen.** 1998. Dissolved organic carbon fractions formed during composting of municipal solid waste: properties and significance. *Acta Hydrochimica Hydrobiolo.* 26:172-179.
- 3.5. **Chefetz, B., F. Adani, P. Genevini, F. Tambone, Y. Hadar and Y. Chen.** 1998. Humic-Acid transformation during composting of municipal solid waste. *J. Environ. Qual.* 27:794-800.
- 3.6. **Chefetz, B., Y. Hadar and Y. Chen.** 1998. Water extractable compounds released during composting of municipal solid waste. *Acta Horticulturae* 469:111-118.
- 3.7. **Chefetz, B., Y. Chen and Y. Hadar.** 1998. Purification and characterization of laccase from *Chaetomium thermophilum* and its role in humification. *App. Environ. Microbiolo.* 64:3175-3179.
- 3.8. Helfrich, P., **B. Chefetz, Y. Chen, Y. Hadar and H. Schnabl.** 1998. A novel method for determining phytotoxicity in composts. *Compost Sci. Utilization* 6:6-13.
- 3.9. Amitai, G., R. Adani, G. SodMoriah, I. Rabinovitz, A. Vincze, H. Leader, **B. Chefetz, L. Leibovitz Persky, D. Friesem and Y. Hadar.** 1998. Oxidative biodegradation of phosphorothiolates by fungal laccase. *FEBS Letters* 438:195-200.
- 3.10. **Chefetz, B., J.D.H. van Heemst, Y. Chen, C.P. Romaine, J. Chorover, R. Rosario, M. Guo and P.G. Hatcher.** 2000. Organic matter transformation during the weathering process of spent mushroom substrate. *J. Environ. Qual.* 29:592-602.
- 3.11. **Chefetz, B., Y. Chen, E.D. Clapp and P.G. Hatcher.** 2000. Characterization of organic matter in soils by thermochemolysis using tetramethylammonium hydroxide (TMAH). *Soil Sci. Soc. Am. J.* 64:583-589.
- 3.12. **Chefetz, B., A.P. Deshmukh, P.G. Hatcher and E.A. Guthrie.** 2000. Pyrene sorption by natural organic matter. *Environ. Sci. Technol.* 34:2925-2930.
- 3.13. Chen, Y., **B. Chefetz, R. Rosario, J.D.H. van Heemst, C.P. Romaine and P.G. Hatcher.** 2000. Chemical nature and composition of compost during mushroom growth. *Compost Sci. Utilization* 8:347-359.
- 3.14. Deshmukh, A.P., **B. Chefetz and P.G. Hatcher.** 2001. Characterization of organic matter in pristine and contaminated coastal marine sediments using solid-state <sup>13</sup>C NMR, pyrolytic and thermochemolytic methods: a case study in the San Diego harbor area. *Chemosphere* 45:1007-1022.
- 3.15. **Chefetz, B., M.J. Salloum, A.P. Deshmukh and P.G. Hatcher.** 2002. Structural components of humic acids as determined by chemical modifications and <sup>13</sup>C NMR, pyrolysis- and thermochemolysis-GC/MS. *Soil Sci. Soc. Am. J.* 66:1159-1171.

- 3.16. Salloum, M.J., B. **Chefetz** and P.G. Hatcher. 2002. Phenanthrene sorption by aliphatic-rich natural organic matter. *Environ. Sci. Technol.* 36:1953-1958.
- 3.17. **Chefetz**, B., J. Tarchitzky, A.P. Deshmukh, P.G. Hatcher and Y. Chen. 2002. Structural characterization of humic substances in particle-size fraction of an agricultural soil. *Soil Sci. Soc. Am. J.* 66:129-141.
- 3.18. Simpson, M.J., B. **Chefetz** and P.G. Hatcher. 2003. Phenanthrene sorption to structurally modified humic acids. *J. Environ. Qual.* 32:1750-1758.
- 3.19. **Chefetz**, B. 2003. Sorption of phenanthrene and atrazine by plant cuticular fractions. *Environ. Toxicol. Chem.* 22:2492-2498.
- 3.20. Sachleben, J.R., B. **Chefetz**, A. Deshmukh, and P.G. Hatcher. 2004. Solid-state NMR characterization of pyrene-cuticular matter interactions. *Environ. Sci. Technol.* 38:4369-4376.
- 3.21. **Chefetz**, B., Y.I. Bilkis and T. Polubesova. 2004. Sorption-desorption behavior of triazine and phenylurea herbicides in Kishon river sediments. *Water Res.* 38:4383-4394.
- 3.22. Simpson, M.J., B. **Chefetz**, A.P. Deshmukh, and P.G. Hatcher. 2005. Comparison of polycyclic aromatic hydrocarbon distribution and sedimentary organic matter structure in near-shore contaminated sediments from Pensacola Bay, Florida. *Marine Environ. Res.* 59:139 –163.
- 3.23. Ilani, T., E. Schulz and B. **Chefetz**. 2005. Interactions of organic compounds with wastewater dissolved organic matter: role of the hydrophobic fractions. *J. Environ. Qual.* 34:552-562.
- 3.24. Oren, A., and B. **Chefetz**. 2005. Sorption-desorption behavior of polycyclic aromatic hydrocarbons in upstream and downstream river sediments. *Chemosphere* 61:19-29.
- 3.25. Drori, Y., Z. Aizenshtat and B. **Chefetz**. 2005. Sorption-desorption behavior of atrazine in soils irrigated with reclaimed wastewater. *Soil Sci. Soc. Am. J.* 69:1703-1710.
- 3.26. **Chefetz**, B., Sominski, L. M. Pinhas, T. Ginsburg, E. Tel-Or and A. Gedanken. 2005. A new approach for removal of metallic ions from water: adsorption onto aquatic plants and microwave radiation for the fabrication of nanometals. *J. Phy. Chem. B* 109:15179-15181.
- 3.27. Chen, B.L., E.J. Johnson, B. **Chefetz**, L. Zhu and B. Xing. 2005. Sorption of polar and nonpolar aromatic organic contaminants by plant cuticular materials: the role of polarity and accessibility. *Environ. Sci. Technol.* 39:6138-1641.
- 3.28. Oren, A., Z. Aizenshtat and B. **Chefetz**. 2006. Persistent organic pollutants and sedimentary organic matter properties: a case study in the Kishon River, Israel. *Environ. Pollution* 141:265-274.
- 3.29. **Chefetz**, B., T. Ilani, E. Schulz and J. Chorover. 2006. Wastewater dissolved organic matter: characteristics and sorptive capabilities. *Water Sci. Technol.* 53:51-57.
- 3.30. **Chefetz**, B., K. Stimler, M. Shechter and. Y. Drori. 2006. Interactions of sodium azide with triazine herbicides: effect on sorption to soils. *Chemosphere* 65:352-357.
- 3.31. Stimler, K., B. Xing and B. **Chefetz**. 2006. Transformation of plant cuticles in soil: effect on their sorptive capabilities. *Soil Sci. Soc. Am. J.* 70:1101-1109.

- 3.32. Drori, Y., B. Lam, A. Simpson, Z. Aizenshtat and B. **Chefetz**. 2006. The role of lipids on sorption characteristics of freshwater- and wastewater-irrigated soils. *J. Environ. Qual.* 35:2154-2161.
- 3.33. Shechter, M., B. Xing, F.-D. Kopinke and B. **Chefetz**. 2006. Competitive sorption-desorption behavior of triazine herbicides with plant cuticular fractions. *J. Agric. Food Chem.* 54:7761-7768.
- 3.34. Johnson, E.J., O. Dorot, J. Liu, B. **Chefetz** and B. Xing. 2007. Spectroscopic characterization of aliphatic moieties in four plant cuticles. *Comm. Soil Sci. Plant Anal.* 38:2461-2478.
- 3.35. **Chefetz**, B. 2007. Decomposition and sorption characterization of plant cuticles in soil. *Plant Soil* 298:21-30.
- 3.36. Polubesova, T., M. Sherman-Nakache and B. **Chefetz**. 2007. Binding of pyrene to hydrophobic fractions of dissolved organic matter: effect of polyvalent metal complexation. *Environ. Sci. Technol.* 41:5389-5394.
- 3.37. Shechter, M. and B. **Chefetz**. 2008. Insights into the sorption properties of cutin and cutan biopolymers. *Environ. Sci. Technol.* 42:1165-1171.
- 3.38. Drori, Y., Z. Aizenshtat and B. **Chefetz**. 2008. Sorption of organic compounds to humin from soils irrigated with reclaimed wastewater. *Geoderma* 145:98-106.
- 3.39. Polubesova, T., Y. Chen, R. Navon and B. **Chefetz**. 2008. Interactions of hydrophobic fractions of dissolved organic matter with Fe<sup>3+</sup>- and Cu<sup>2+</sup>-montmorillonite. *Environ. Sci. Technol.* 42:4797-4803.
- 3.40. **Chefetz**, B., T. Mualem and J. Ben-Ari. 2008. Sorption and mobility of pharmaceutical compounds in soil irrigated with reclaimed wastewater. *Chemosphere* 73:1335-1343.
- 3.41. Marciano, A., B. **Chefetz** and A. Gedanken. 2008. Differential adsorption of silver nanoparticles to the inner and outer surfaces of the *Agave americana* cuticle. *J. Phy. Chem. C* 112:18082–18086.
- 3.42. **Chefetz**, B. and B. Xing. 2009. The relative role of aliphatic and aromatic moieties as sorption domains for organic compounds: A review. *Environ. Sci. Technol.* 43, 1680–1688.
- 3.43. Polubesova, T., Y. Chen, C. Stefan, M. Selle, P. Werner, B. **Chefetz**. 2009. Sorption of polyaromatic compounds by organic matter-coated Ca<sup>2+</sup>- and Fe<sup>3+</sup>-montmorillonite. *Geoderma* 154:36-41.
- 3.44. Maoz, A. and B. **Chefetz**. 2010. Sorption of the pharmaceuticals carbamazepine and naproxen to dissolved organic matter: Role of structural fractions. *Water Res.* 44:981-989.
- 3.45. Shechter, M., B. Xing and B. **Chefetz**. 2010. Cutin and cutan biopolymers: Their role as natural sorbents. *Soil Sci. Soc. Am. J.* 74:1139-1146.
- 3.46. Polubesova, T., S. Eldad and B. **Chefetz**. 2010. Adsorption and oxidative transformation of phenolic acids by Fe(III)-montmorillonite. *Environ. Sci. Technol.* 44:4203-4209.
- 3.47. Hauff, S., B. **Chefetz**, M., Shechter and W. Vetter. 2010. Determination of hydroxylated fatty acids from the biopolymer of tomato cutin and their fate during

- incubation in soil. *Phytochemical Analysis* 21:582-589.
- 3.48. Fan, C., Y. Zhang, Y. Zhang, J. Li and B. **Chefetz**. 2010. Cr(VI) adsorption mechanism on rice husk ash burned at low temperature by method of IR spectra. *Spectroscopy and Spectral Analysis* 30:2345-2349.
- 3.49. Elmachliy, S., B. **Chefetz**, E. Tel-Or, L. Vidal, A. Canals, and A. Gedanken. 2010. Removal of silver and lead ions from water using *Azolla Filiculoides* an aquatic plant which adsorbs and reduces the ions into the corresponding metallic nanoparticles under microwave radiation in 5 minute. *Water, Air & Soil Pollution* (in press; 10.1007/s11270-010-0650-3).
- 3.50. Shenker, M., D. Harush, J. Ben-Ari and B. **Chefetz**. 2010. Uptake of carbamazepine by cucumber plants – A case study related to irrigation with reclaimed wastewater. *Chemosphere* (in press; doi:10.1016/j.chemosphere.2010.10.052).
- 3.51. Borisover, M., M. Selaa and B. **Chefetz**. 2010. Enhancement effect of water associated with natural organic matter (NOM) on organic compound–NOM interactions: A case study with carbamazepine. *Chemosphere* (in press; doi:10.1016/j.chemosphere.2010.11.035).
- 3.52. **Chefetz**, B., S. Eldad and T. Polubesova. 2010. Interactions of aromatic acids with montmorillonite: Ca<sup>2+</sup>- and Fe<sup>3+</sup>-saturated clays versus Fe<sup>3+</sup>-Ca<sup>2+</sup>-clay system. *Geoderma* (in press; 10.1016/j.geoderma.2010.11.010).
- 3.53. Anagu1, I., J. Ingwersen1, Y. Drori, B. **Chefetz**, and T. Streck. 2011. Modeling concentration-dependent sorption-desorption hysteresis of atrazine in a sandy loam soil. *J. Environ. Qual.* (accepted for publication).
- 3.54. Navon, R., S. Hernandez-Ruiz, J. Chorover and B. **Chefetz**. 2011. Interactions of carbamazepine in soil: effects of dissolved organic matter. *J. Environ. Qual.* (in review).