

Interactive comment on “Soil contaminations in landfill: a case study of the landfill in Czech Republic” by D. Adamcová et al.

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Dear editor, The paper se-2015-102 Soil contaminations in landfill: a case study of the landfill in Czech Republic by D. Adamcová, M.D. Vaverková, S. Bartoň, Z. Havlíček, and E. Břoušková is a good contribution about an interesting topic related to an environmental issue in Europe. How the landfills are polluting our soils and changing the chemistry of the Earth Crust surface: the soil system.

I suggest publication, although I will recommend the authors to review the paper in the following way. The paper needs an general introduction about the soils in the Earth System and how important they are . . . and to show some literature update Something like:

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Soil is the key part of the Earth System as it control the hydrological, erosional, biological and geochemical cycles. Soil System is also offering goods, services and resources to the humankind (citations 1). This is why it is necessary to research how the soils are affected by the use by the human societies. Pollution is one of those damaging human activities and we need more information and assessment of the land pollution (citations 2).

citations 1 Smith, P., Cotrufo, M.F., Rumpel, C., Paustian, K., Kuikman, P.J., Elliott, J.A., McDowell, R., Griffiths, R.I., Asakawa, S., Bustamante, M., House, J.I., Sobocká, J., Harper, R., Pan, G., West, P.C., Gerber, J.S., Clark, J.M., Adhya, T., Scholes, R.J., Scholes, M.C., 2015. Biogeochemical cycles and biodiversity as key drivers of ecosystem services provided by soils. SOIL 1, 665-685. doi:10.5194/soil-1-665-2015 Decock, C., J. Lee, M. Nepalova, E. I. P. Pereira, D. M. Tendall, and J. Six 2015 Mitigating N₂O emissions from soil: from patching leaks to transformative action SOIL, 1, 687-694, doi:10.5194/soil-1-687-2015, Mol, G., Keesstra, S.D., 2012 Editorial: "Soil science in a changing world". Current Opinions in Environmental Sustainability 4: 473–477. Keesstra, S.D., Geissen, V., van Schaik, L., Mosse, K., Piirainen, S., 2012. Soil as a filter for groundwater quality. Current Opinions in Environmental Sustainability 4, 507-516. doi:10.1016/j.cosust.2012.10.007 Brevik, E. C., Cerdà, A., Mataix-Solera, J., Pereg, L., Quinton, J. N., Six, J., and Van Oost, K.: The interdisciplinary nature of SOIL, SOIL, 1, 117-129, doi:10.5194/soil-1-117-2015, 2015. Berendse, F., van Ruijven, J., Jongejans, E., Keesstra, S. (2015) Loss of plant species diversity reduces soil erosion resistance Ecosystems, 18 (5), 881-888. DOI: 10.1007/s10021-015-9869-6

citations 2 Riding, M.J., Martin, F.L., Jones, K.C., Semple, K.T., 2015. Carbon nano-materials in clean and contaminated soils: environmental implications and applications. SOIL 1, 1-21. doi:10.5194/soil-1-1-2015 Mahmoud E., Abd El-Kader N. Heavy Metal Immobilization in Contaminated Soils using Phosphogypsum and Rice Straw Compost. (2015) Land Degradation and Development, 26 (8), pp. 819-824. DOI: 10. 1002/ldr. 2288 Sacristán D., Peñarroya B., Recatalá L. Increasing the Knowledge on the Man-

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agement of Cu-Contaminated Agricultural Soils by Cropping Tomato (*Solanum Lycopersicum L.*). (2015) *Land Degradation and Development*, 26 (6), pp. 587-595. DOI: 10.1002/ldr.2319 Kardanpour, Z., Jacobsen, O.S., Esbensen, K.H., 2015. Local versus field scale soil heterogeneity characterization – a challenge for representative sampling in pollution studies. *SOIL* 1, 695-705. doi:10.5194/soil-1-695-2015 Roy M., McDonald L. M. Metal Uptake in Plants and Health Risk Assessments in Metal-Contaminated Smelter Soils. (2015) *Land Degradation and Development*, 26 (8), pp. 785-792. DOI: 10.1002/ldr.2237 Wang H. -Q., Zhao Q., Zeng D. -H., Hu Y. -L., Yu Z. -Y. Remediation of a Magnesium-Contaminated Soil by Chemical Amendments and Leaching. (2015) *Land Degradation and Development*, 26 (6), pp. 613-619. DOI: 10.1002/ldr.2362

Interactive comment on *Solid Earth Discuss.*, 7, 2927, 2015.