ABSTRACT TEMPLATE

Combining chemical and biological endpoints, a major challenge for twenty-first century's environmental specimen banks

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Basque environmental administration, inspired by the Ducth system, has established Intervention Values (A, B and C) for pollutants in soil. A-values correspond to baseline reference values whereas C-values are those levels of pollutants in soil that pose an unacceptable risk for life. B-values indicate that there exists a potential risk and therefore further examination of toxicity is required before intervention measures are decided/designed. Presently, the toxicity profiles of two chronically polluted soils from Basque Country which contained various metals at B-values were examined: an ancient iron mine in Zugaztieta (ZU) and an industrial ruin polluted with hydrocarbons and metals in Legazpi (LG). Standard (*E. fetida* acute toxicity and reproduction tests, plant - lettuce and radish- seed germination and root elongation test, and Microtox) and novel (*D. discoideum* developmental cycle, mortality, replication, endocytic rate and lysosomal membrane stability) toxicity assays were applied for toxicity profiling to either solid phase or elutriates. According to the results, very different sensitivities were found for the different tests. Overall, whereas ZU soil showed very little or no toxicity, LG soil resulted to be toxic for almost all the toxicity assays, which revealed that for similar B-values the risk posed to the environment and therefore the need for intervining may be very different. In conclusion, toxicity assays provides additional reliable information for decision makers and environmental managers that go beyond the limited environmental significance of the criteria used to establish Intervention Values, which are purely based on the concentrations of chemicals and theoretical approaches to their toxicity based on bibliographical data. Individual assessment of each soil toxicity (based on toxicity profiling) is recommended for soil management. Acknowledgements.. Funded by Basque Gov (ETORTEK BERRILUR II; CTP UE09+/58) and Spanish MICINN (CGL2006-06154).

SESSION1: New ideas and applications for environmental specimen bank
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