Development of the invertebrate soil quality chip (iSQ)

The construction of an iSQ chip will be undertaken on the basis of the *Folsomia candida* EST database. Firstly, this array will be used to study transcription profiling of springtails exposed to soils spiked with different concentrations of metals, PAHs, pesticides and oil, as defined in the previous subproject. The outcome will be a verification of the results obtained in that project. Important variables to vary are the exposure time of the springtails and their age. Extensive transcription profiling data will be collected and analysed using multivariate statistical analysis, aimed at dimension reduction. The data will contribute to the development of a new framework for discriminating stress response in a multidimensional space, using the concept of "normal operating range" and normalized strain", as proposed by Kersting (1984). The responses seen in this analysis will also be compared to traditional endpoints in ecotoxicological tests. In this way, a link will be made between effects of single toxicants expressed as EC50, and genome-wide expression profiles.


This project is part of the "Assessing the living soil: an ecogenomics approach to sustainable life-support functions" project.

**Duration**

October 2005 - October 2009

**Participants**

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