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# The Edaphobase Nationwide Field Monitoring – an approach to determine reference values for soil organism communities of different habitat types

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The adequate supply of the growing world population with food, energy and drinking water is one of today′s most important challenges and depends largely upon soil and its services. The protection of soil and its natural functions (e. g. organic matter decomposition and nutrient cycling, or its function as a habitat for soil organisms) is regulated in different national and European laws. These natural soil functions result mainly from the complex interactions of numerous organisms belonging to different taxa and trophic levels. Government agencies frequently have to assess the ecological value of different sites, in particular in matters of impacts of anthropogenic activities on soil structure and functions. However, these impacts cannot yet be sufficiently evaluated, mainly due to the lack of knowledge on what constitutes “normal conditions” (reference values) at a specific site. In other words, detailed data on the diversity and abundance of soil animals correlated with site-specific information (e. g. habitat types or soil properties such as pH or texture) is lacking. In a first phase of the German Soil Biodiversity Data-warehouse project Edaphobase, the German Federal Ministry of Education and Research (BMBF) supported the collection of data for different groups of soil animals (e. g. Oribatida, Collembola, Lumbricidae, Enchytraeidae, Diplopoda, Nematoda). In the Nationwide Field Monitoring - subproject of the ongoing second Edaphobase phase, different habitat types (arable land, grassland, forests) in four German regions were systematically surveyed, i. e. vegetation and soil properties determined and soil animals sampled and identified using standardized methods. These surveys in combination with data already in Edaphobase provide an improved basis for the assessment of soil organism communities by determining reference values for different habitat types. In the future, this information will be publicly accessible online via www.portal.edaphobase.org.