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NEMATODES AS INDICATORS OF SOIL HEALTH AND AGRICULTURAL SUSTAINABILITY: POSSIBILITIES OF THE METHOD WHEN APPLIED AT BOTH A NATIONAL AND EUROPEAN LEVEL.

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Text: Soil health is an important parameter when estimating the value of a soil resource, especially with regard to agricultural productivity. Soil hosts biodiversity on a range of scales which contribute to the pool of ecological functions and services that can be provided. The FP7 project EcoFINDERS set out to explore and clarify the contribution of soil biodiversity to soil health in light of the many threats to the soil resource pool in our current culture.

Soil nematode assemblages have been used as indicators of soil function due to their abundance and diverse contribution within agri-ecosystems (Yeates, 2003). Within the EcoFINDERS project, it was proposed that an assessment of bio-indicators as tools for determining soil health across European biomes should be carried out. Soil samples from sites across Europe were analysed for nematode abundance. Molecular methods were applied to determine species diversity.

Nematode community responses were analysed to assess sensitivity to a range of different disturbances (nutrient additions, tillage, grazing).

In addition, as part of the on-going national project to map soils in Ireland, nematode abundance and diversity were assessed. By comparing data ranging from land use to a detailed national scale to the European scale we will present an assessment of the potential of nematodes as indicators of biodiversity, including the practicability of methods (field sampling, extraction and molecular techniques).

Yeates, G.W. (2003) Nematodes as soil indicators: functional and biodiversity aspects, *Biology and Fertility of Soils* 37:199-210