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THE FIRST GLOBAL
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Assessing soil biodiversity and role in ecosystem services



GLOBAL
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Palais des Congrès, Dijon, France

2-5 DECEMBER 2014

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PROGRAM AND ABSTRACTS

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AgriInnov : a national participative project with farmers to transfer an operational set of biological indicators to soil users

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This project aims at validating soil biological and agronomical indicators, as well as the transfer and training procedure to initiate an agricultural innovation network, and to monitor the impact of agricultural practices on soil biological life. The strategy used was based on selecting existing bioindicators, easily operational to be applied to a network of farming systems, in order to evaluate the environmental and agronomical impacts of agricultural practices. These bioindicators target three large groups of soil organisms, namely the earthworms, the nematodes, and the microbial communities. At the same time, agronomical indicators based on physico-chemical parameters, soil structure and organic matter decomposition were also used to better interpret the bioindicators. More than 230 private farms form the network (with an equal proportion of grapevine and arable farms), which therefore integrates a great variability of pedoclimatic and agricultural situations at the scale of the French territory. After a training on soil biology, soil observations and sampling, all these farmers sampled soil for laboratory measurements and characterized their soil structure and earthworms density.

This project enables to test the feasibility of monitoring soil bioindicators for farmers, their operability and their utility for end-users. One of the main deliverable of the project was to elaborate a handbook which could allow the farmers to understand the impact of their agricultural practices on the soil biological life, and therefore to evaluate the sustainability of their production system by mobilizing laboratory and field indicators. From this project, a new sector of analyses and agronomic advice based on biological indicators is raising, following the need expressed by farmers.

Keywords: soil biodiversity, sustainable agriculture, bioindicators