Leaflet on nematodes as suitable indicators for soil health

The new Greenresilient leaflet explains why nematodes can be excellent indicators for soil health

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During the Greenresilient project, nematode communities will be characterized at the beginning, in the middle and at the end of the field trials to reveal shifts in their community. These shifts will be analysed to determine whether the chosen ‘innovative’ methods tested in the project are beneficial for soil health, causing an increased resilience to pests and diseases and a more balanced nutrient supply, for more sustainable and high-quality crop production. This leaflet explains why nematodes can be excellent indicators for soil health.

LEAFLET

Photo. 1. View of part of a nematode soil community under the microscope (25X).
Source: ILVO, Flanders Research Institute for Agriculture, Fisheries and Food ©.

Nematodes as suitable indicators for soil health

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Soil nematodes are small but diverse, abundant and everywhere

Nematodes are simple, worm-like creatures. Most of them are only 1 mm long. Hence, nematodes are largely unknown to many people. However, they belong to the most diverse and abundant group of animals on earth. More than one million species are estimated to exist and a soil nematode community can contain densities of up to 20 million individuals per square meter. Nematodes can be found in almost all habitats from deep sea to deserts, and from the tropics to polar permafrost.

Soil nematodes feature varying life characteristics

Different nematodes have a different preference for food resources (photo 2). Most soil nematodes feed on bacteria or fungi, stimulating these populations of microorganisms to renew constantly and thus maintaining the release of nutrients at an efficient high level. A number of soil nematodes are predators or omnivores, feeding on other nematodes, insect larvae, slugs and snails. If these prey organisms are plant pests, the predators and omnivorous nematodes play a role in biological control. Other nematodes feed on plant material. Some species are plant-parasitic causing yield and quality loss to many different agricultural crops.

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Leaflet on orgprints.org: Nematodes as suitable indicators for soil health

Greenresilient website: https://www.greenresilient.net/

Agriculture and food

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