Goetheanum
Section for Agriculture

Animals, Health & Resilience 07.09.2023
Exercise II Observation exercise: Soil and life, Part 1

Material
Spade, notebook, pencil

Place
Look for two places with different soil types in which you can dig a hole. One spot with rich, fertile, fairly moist soil (a vegetable garden, for example) and a second with leaner, drier soil (a sunny paddock, for example).

Exercise

i. Observe and note the vegetation, fauna and animal tracks (earthworm castings, holes, etc.) on the surface.
ii. In each of these two places, dig a hole about **50 cm** deep with a spade, laying the successive layers of soil separately so that they are in place when you fill in the hole.
iii. Once the hole has been dug, make the following observations:
    - Describe the different layers of soil in terms of colour, structure, smell, feel, even taste, etc.
    - Note the presence of animals (earthworms, insects, etc.) and plants (roots). Also note any traces of animal presence. Worm galleries in the soil, etc.
    - Do the following sludge test (see Exercise II, Part 2) to assess soil vitality.

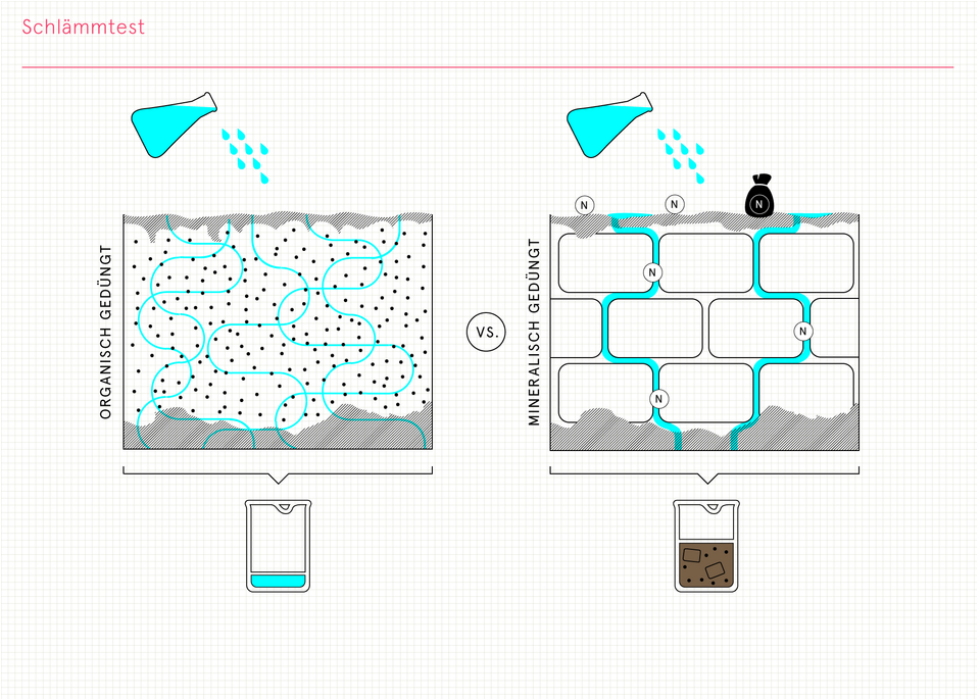
Exercise II Observation exercise: Soil and life, Part 2

Material
Empty jam jar with lid, garden soil, notebook, pencil

Exercise
The so-called sludge test compares the water absorption capacity of conventionally and organically managed soils and determines the approximate humus content in the soil:

i. For the sludge test, take an empty jam jar and fill it a quarter full with garden soil.
ii. Fill the jar to the brim with water, screw the lid on and shake the jar for 30 seconds.
iii. Then let it stand for 15 to 30 minutes and compare the results afterwards:

Conclusions about the condition of the soil aggregates can be drawn from the turbidity and colouring of the soil solution and from the settling behaviour of the soil particles.



Reference: Lindenthal, T. et al. (2011): Biologische Boden-Bewirtschaftung als Schlüssel zum Klimaschutz in der Landwirtschaft André Gilhofer: Gesunder Boden, DVD; Plakolm, G. (1993): Ökologischer Landbau