

## What are indicators for soil quality?

### What is an Indicator?

- A way to measure, indicate, point out or point to with more or less exactness;
- Something that is a sign, symptom or index of;
- Something used to show visually the condition of a system.

Example:

### Key indicators for soil quality:

Divided into three categories: chemical, biological, and physical. What defines good quality soil depends on the intended usage of soil.

One definition by Doran and Parker (1994) defines soil quality as “the capacity of soil to function in an ecosystem and land-use boundaries to sustain biological productivity, maintain environmental quality, and promote plant and animal health.”

Other definitions deviate from this definition based on other factors such as crop growth or human use.

Thus, to measure soil quality the following indicators provide a variety of information that is assessed together based on the intended usage of the soil.

Electrical Conductivity	
Soil Nitrate	
Soil Reaction (pH)	Sources: carbonic acid from carbon dioxide (created from organic matter, root respiration, and soil atmosphere) is dissolved into the soil water.  Soil reaction tests the soil acidity or alkalinity (basicness). The pH scale is a scale from 0-14, where 7 is neutral, above 7 is basic, and below 7 is acidic. A pH scale is logarithmic meaning that a small change in number means a huge change in the environment and biological processes.
Reactive Carbon	
Earthworms	
Particulate Organic Matter	
Potentially Mineralizable Nitrogen	
Soil Enzymes	

Soil Respiration	
Total Organic Carbon	
Aggregate Stability	
Available Water Capacity	
Bulk Density	
Infiltration	
Slaking	
Soil Crusts	
Soil Structure and Macropores	