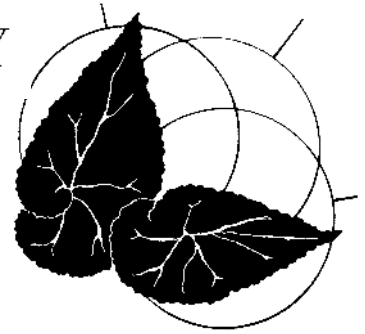


Fact Sheet 4 Biodiversity in Soil: The World Below Your Feet

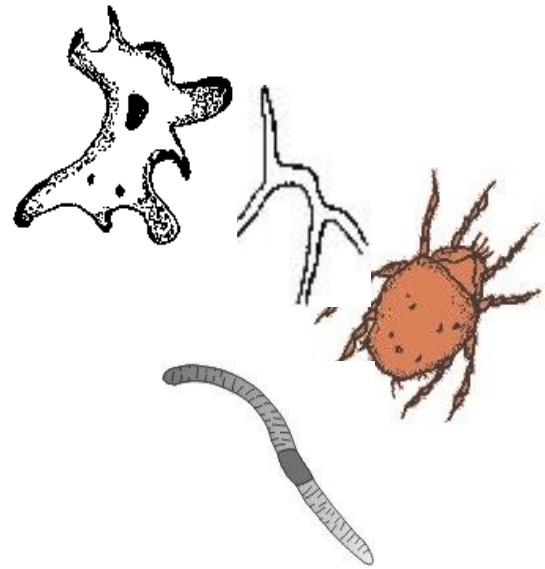


What is in a teaspoon of healthy soil?

- Between 100 million and 1 billion bacteria.
- approximately three miles of fungal hyphae
- 10,000 protozoa
- 20 to 30 beneficial nematodes

The more organic matter you have in your soils, the more microorganisms you have. This is important because the microorganisms are responsible for

- Decomposing decaying natural materials
- Nutrient cycling
- Pest management
- Holding and releasing water
- Detoxifying materials that might be soil pollutants
- Creating soil structure



What are these microorganisms?

Bacteria are tiny single celled organisms that are most prevalent in soils. They help to create a form of nitrogen that is used by the plant as well as hold and release water and suppress disease.

Fungi are cells that grow into long threads, called hyphae, which break there way into decomposing materials in the soil to create organic matter.

Protazoa are single celled animals that feed on many things, including bacteria that cause plant disease. Protazoa also break down nutrients into forms plants can use.

Nematodes are non-segmented, microscopic sized worms. Like protazoa, nematodes release nutrients into the soil in forms that are available for the plants to take up.

Arthropods are bugs with jointed legs and no backbone. They shred organic matter, feed on unwanted plant pests, and keep the diversity of bacteria and fungi in check by feeding on the dominant species.

Earthworms move about in ground, they mix up the soil and create pockets for air.

Healthy soils are rich in diversity. All of these microorganisms work together to keep your plants healthy and soil functional. To keep the diversity of microorganisms in your soil, increase your organic matter, avoid pesticides and use natural fertilizer.

Information for this fact sheet was gathered from *Soil Biology Primer* [online]. Available: soils.usda.gov/sqi/concepts/soil_biology/biology.html [access date].