Building Healthy Soils

By Katharine Rondthaler, Center for Sustainability Santa Clara University

Healthy soils = healthy plants = healthy people

Healthy soil is ALIVE... a teaspoon of soil can hold up to a billion microorganisms!

How does life in the soil help plants grow?

- Bacteria surrounds the root system of plants
- Plants feed bacteria
- Microbes eat bacteria and release nutrients
- Fungi connect plants through a cell network

How can we care for our soil?

Add organic matter

- Compost
- Cover crops
- Mulching (laying straw, woodchips, or dried leaves around the base of plants)
- Manure
- Rotational grazing of animals
- Living mulch

Check the **soil moisture** prior to touching the soil (see soil moisture test <u>video</u>)

- If the soil is too dry, the soil becomes compacted when disturbed
- If the soil is too wet, the soil becomes compacted when disturbed

Single Fork cultivation is the simplest way to prepare your soil in a garden setting or small scale farm

When to use: between plantings or each season for healthy soils

Tools used: Digging fork, spade, and soil rake

Step 1: Get good quality compost. Make your own or purchase organic compost, worm castings, or chicken manure.

Step 2: Add 2 inches (at least!) of compost across the whole bed

Step 3: Use the digging fork to loosen the soil across the whole bed.

Step 4: Rake the bed to even out the soil

Step 5: Wait about a week before planting into the bed