

# Building Healthy Soil

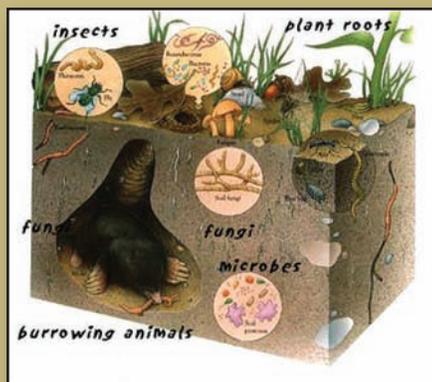


Though some gardeners may be blessed with perfect soil, most of us garden in soil that is less than perfect. Turning a poor soil into a plant-friendly soil is not difficult to do, once you understand the components of a healthy soil.

“Feed the soil, and the plants will feed themselves.” This verbiage was widely touted by organic gardeners, and until now, it was widely dismissed. Recently, this age old advice has been proven true by molecular methods.



Soil is, in fact, brimming with life; soil bacteria, nematodes, fungi, and protozoa all live within the first few inches of the soil surface. These tiny creatures feed upon organic matter (such as dead plant material) and excrete it in forms easily absorbed by plant roots.



If this biosystem is kept healthy, the resulting well-nourished plants are able to ward off disease and pestilence naturally. For instance, pathogenic nematodes which eat the roots of healthy plants will thrive in soil low in oxygen. Beneficial nematodes found in normal, healthy soil release nutrients that feed the plants.

Most pesticides destroy the pathogenic or destructive life forms, but will kill the beneficial ones as well. Adding compost to the soil will feed these microbes, or treat the soil with a “compost tea” to help encourage the beneficial populations.

**Fungal hyphae:** Break down the toughest forms of carbon so plants can absorb it.

**Protozoa:** Excretes nitrogen which makes up the plants main source for nitrogen. Protozoa are single-celled creatures that eat bacteria and each other. (amoebas, flagellates, and ciliates are all types of Protozoa)

**Mycorrhizal & Ectomycorrhizal fungi:** Facilitates the plants ability to absorb nutrients. Both these beneficial types of fungi are killed off by pesticides.

**Nematodes:** There are two kinds, beneficial and pathogenic. The beneficial nematodes release nitrogen after eating fungi and bacteria, as well as each other. Pathogenic nematodes feast on plant roots and thrive in tight, acidic soil low in oxygen. Adding a pH neutralizer, such as compost, will help diminish these unwelcome pathogenic nematodes significantly.

## Compost Tea Recipe

- Use a watering can, small barrel or large bucket, depending on the amount you need.
- Place finished compost in a burlap bag that is appropriate to the size of container you are using.
- Tie the top with twine and place in container of chlorine-free water.
- Let steep until the liquid is the color of weak drinking tea.
- Apply in the early evening as a soil drench or foliar feed.
- Use as soon as it is ready, if it sits too long it will be depleted of oxygen and will promote pathogens instead of beneficials.



TONAWANDA

2121 Sheridan Drive (Between Colvin & Belmont)

(716) 876-2121

[www.norhtowngardencenter.com](http://www.norhtowngardencenter.com)