



What is a healthy soil?

A healthy soil is one where there is life! – Earthworms, insects, bacteria, fungi, protozoa and nematodes. It is not just the balance of nitrogen, phosphorus and potassium. One teaspoon of a healthy soil may contain 1 teaspoon millions of beneficial soil microorganisms including 25,000 species of bacteria, 10,000 species of fungi which with other soil microbes decompose organic matter, promote deep root development, improve soil permeability and provide plants with nutrition, moisture and resistance to pests.

Plants thrive or suffer depending on the life in the soil. Beneficial soil organisms make nutrients available to plants, reduce disease, reduce nutrient losses and help degrade carefully to feed the myriad of soil life.

Bacteria feed on plant residue and root exudates converting these compounds into body mass, this becomes food for the next level of the food web. Protozoa that feed on these bacteria excrete nitrogen as a waste product that then provides nutrients essential to plants. 85% of all plant nutrients must be first cycled through micro-organisms.

Farming disrupts this process. We are gradually mining the soil or organic matter that is the protoplasmic basis for life on earth. So that nutrients are cycled, disease is suppressed and nitrogen is retained so there is no leaching. If you re-establish healthy micro-organisms in the soil farm productivity goes up and costs are cut by eliminating pesticides and chemical fertilisers.

“ Every chemical-based pesticide, fumigant, herbicide and fertilizer tested, harms or outright kills some part of the beneficial life that exists in the soil, (or on the leaf surfaces) even when applied at rates recommended by their manufacturers... (L)ess than half of the existing active ingredients used as pesticides have been tested for their effects on soil organisms.”

– Dr. E. Ingham. Australian Organic Gardener.'02