

The Soil is Alive
By Bridget Haworth

To grow good healthy food requires a soil that contains a balance of organic matter, micro-organisms, trace elements and other nutrients. When the soil is low in one of these substances, the plants and trees growing in that soil can tell you what it lacks. Simple examples being, blossom rot in tomatoes and pit rot in carrots can indicate the soil is low in calcium and early defoliation of fruit trees can mean the soil is low in zinc.

Micro-organisms, one of the key ingredients to balanced soil, produce a natural plant food called humus. They are also capable of naturally producing antibiotics, vitamins, and hormones that assist in healthy plant growth. As well, certain micro-organisms can control the populations of unwanted fungi and plant pathogens. Feeding the micro-organisms in your soil will keep them thriving and in-turn they will feed your plants what they need.

To support a vast community of micro-organisms in the top-soil they need organic matter, trace elements and nutrients, the other main ingredients to balanced soil. One acre of land can contain 800 pounds of micro-organism in its top-soil. A low number of micro-organisms can mean that your soil lacks the available food for them to flourish.

If your plants are having a hard time fending off bugs and disease, it may be due to an imbalance or a lacking in the soil. Depending on how depleted the soil is will determine the amount of time and perhaps money it will take to get the soil back on track. There are various components used to build the soil up so that it can support healthy plant growth.

Organic matter is a key component to building healthy soil and can be obtained by composting kitchen and yard waste and/or manure. As well green manures, a crop that has been grown for the purposes of being tilled into the soil before maturity, can be used. To a certain extent these inputs of organic matter can also bring small quantities of trace elements into your soil. However there are various mineral fertilizers (also called rock dust) that can be used in conjunction with organic matter to increase microbial growth in the soil.

The soil is alive and there are all sorts of interesting biological and chemical exchanges going on beneath our feet. Understanding how to read your soil's needs will help in making the right choices in feeding the soil properly. If you are gardening on a small scale then you might find just regular compost is adequate in keeping your soil healthy. However if your soil has been heavily worked then soil depletion is a real concern.

To learn more about building healthy soil, check out a resource book from CSLP collection at the Craik's Palliser Library called, "The Soul of the Soil: A Guide to Ecological Soil Management". This book is just over a 100 pages and is a wealth of information. In the back of the book there are several helpful charts that describe everything from how to identify the missing trace elements in your soil to the role of the various soil organisms plus list of mineral fertilizers and how and when to use them.