

## **Rays Soil Minute:**

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How can we enhance the natural cycles of the microorganisms in our soils to increase the plant health and performance?

It is not that hard!!! and the long term benefits are great!

All living organisms, including us Humans for that matter, require ---food, water and shelter for a healthy sustainable life. Provide that in your soil to suit the microorganisms and they will do the rest.

Starting with SHELTER:- the non use of Herbicides, Pesticides and artificial Chemical Fertilizers will make a safe non toxic environment for the micro and other organisms to live in. Artificial Fertilizers can kill soil organisms directly or disrupt the natural microbial/plant symbiotic cycles.

- Protection from the adverse climate conditions by providing 100% ground cover through mulches and cover crops giving more even soil temperatures through shading – tree shade can reduce soil surface temperatures by up to 9 deg C and reduce drying of the soil surface, moisture loss and exposure to excess ultraviolet sunlight.

Providing FOOD and WATER:- by adding CARBON in organic matter to the soil to feed the organisms. This is done through Composting and increasing ground cover in the form of mulches-- there are many types, adopting management practices to also increase this. All these also help to increase the percolation of rain water into the soil and to increase soil hydration. By adding just 50 mm of compost twice a year to your garden soil surface it is possible to increase your soil carbon level by about 1% per year. This will enable your soil to absorb and hold an estimated additional 147lts of water per square meter for your plants. All good stuff for those microbes as well.

Where there are soils that are depleted of micro organisms there may be situations where the use of fermented and brewed surface sprays are needed to reintroduce or lift organism numbers quickly .

How we can enhance this in our soils will be pursued in future “Soil Minutes”.