Rays Soil Minute:

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In our garden soil we have 2 broad ‘groups’ of microorganisms--- the Bacteria and the Fungi. Each are made up of many subspecies that have evolved over time to carry out specific tasks within the natural soil cycles.

What has been found is that in the natural landscape the ratios vary, with Rain forest areas having a very high proportion of Fungi compared to Bacteria-- as high as 90% compared to say only 10% Bacteria; while this is reversed in open grassland where the Bacteria dominate at somewhere around 80% compared to only about 20% Fungi. It all depends on the soil conditions at the time and the available organic matter and carbon available as a source of food for them where they are present in the soil.

Fungi are a very special organism and many species have a symbiotic relationship with plant roots depending on the species involved. There are many species yet identified and documented. The fungal myceum (Threads) actually attach themselves into the cells of the plant root hairs so that they can feed on the sugars that the plant produces from the process of photosynthesis in their leaves and transports to the root cells through their sap. The plant attaches a request to the sugars for the mineral elements that the plant requires for its growth. The Fungi then grow through the soil attaching to soil particles to obtain the requested mineral elements and returning these back to the plant root cells in return for more sugars. Fungi have been found to travel some Kms through the soil in vast networks to accomplish this process. Many Rainforest plant species and trees have this symbiotic arrangement but not all plants. The Brassica family is one of note without it.

How we can enhance this in our soils --- look forward to future “Soil Minutes”.