

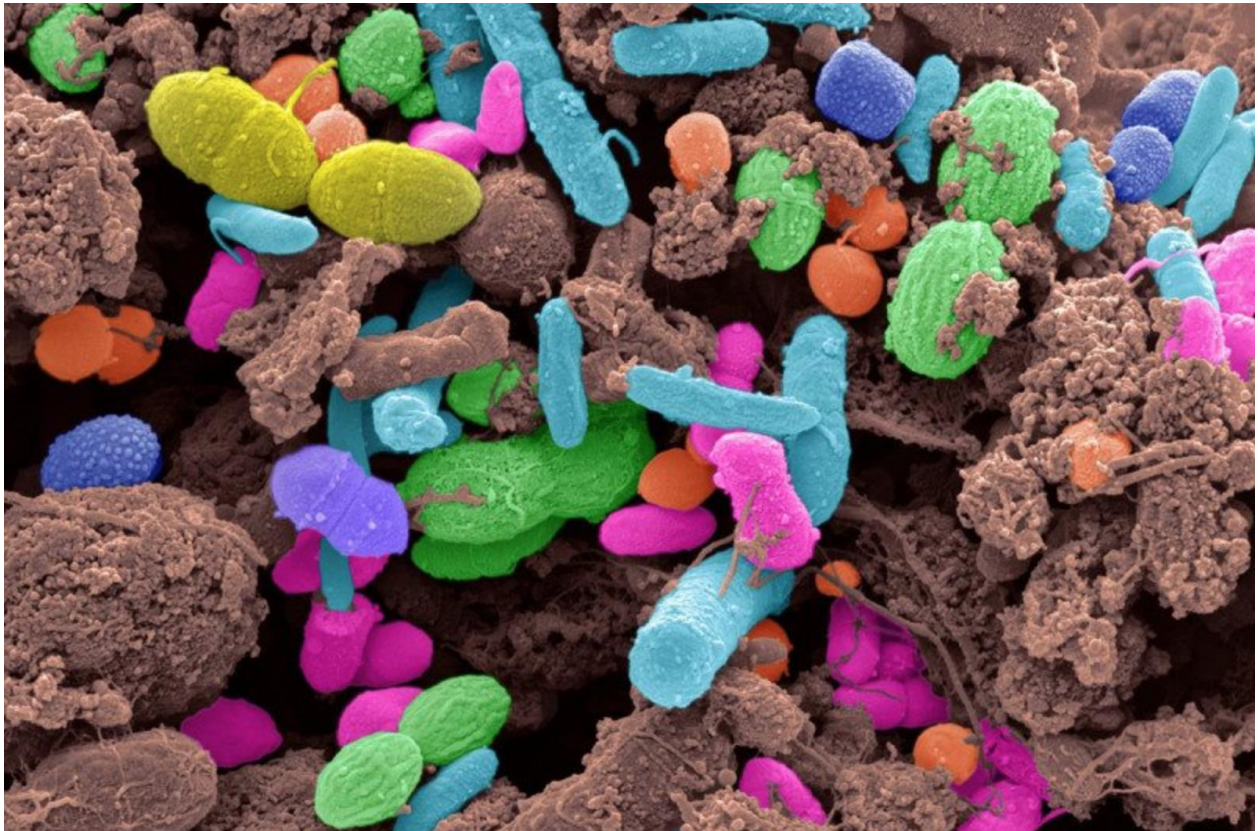
Healthy Soils * Healthy Plants * Healthy People

The key to successful gardening is to 'Go Underground'

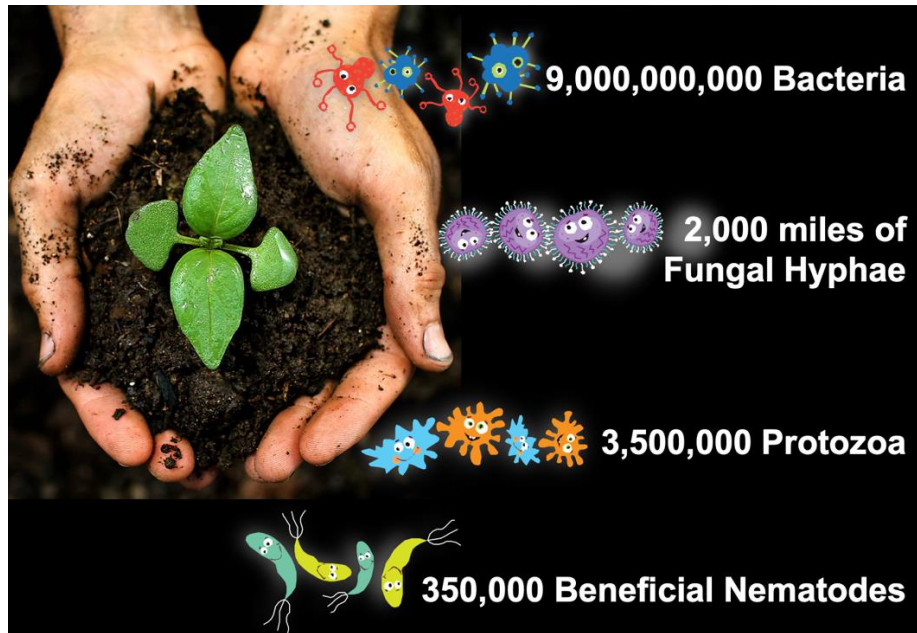
We have fully launched into the 3rd Agriculture Revolution and it doesn't involve the plow or chemicals but our understanding of the soil microbes. Just as in the human gut with our own microbiome, plants are governed by their gut microbiome which we commonly call the soil microbes.

The main characters in this underground world are the millions of species of beneficial bacteria and fungi and the numbers involved stagger the mind of comprehension.

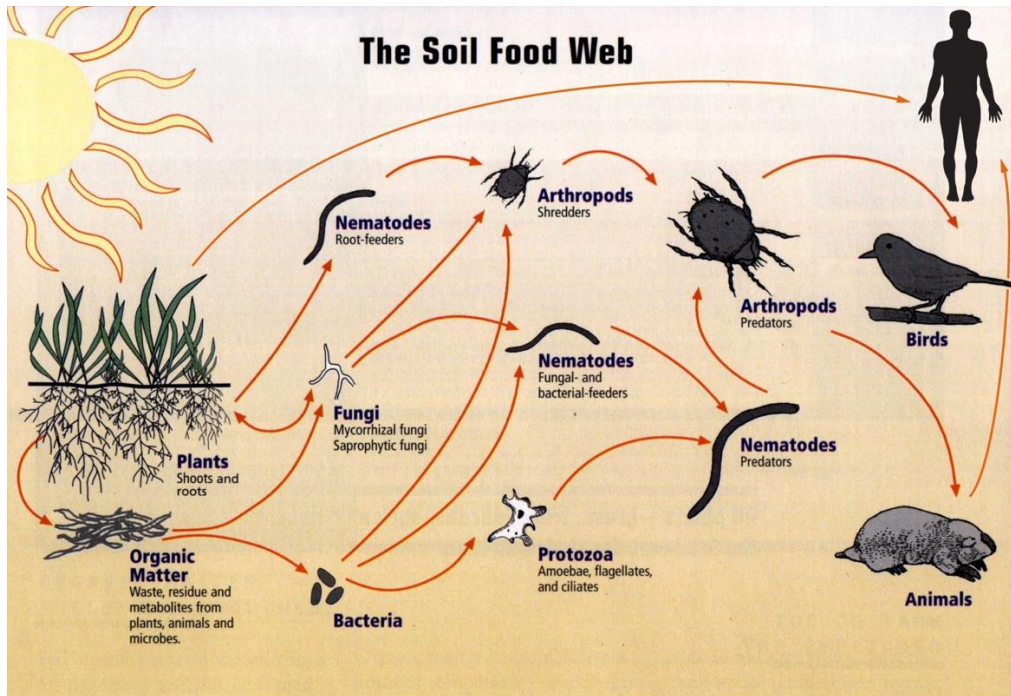
The World of Soil Microbiology



Look at the number of beneficial microbes contained in just 1 handful of healthy soil.



2,000 miles of fungal strand?! 9 billion individual bacteria?! Now think of your garden, your lawn or your plant container and imagine how many microbes that area contains. The numbers are unbelievable. If this information is new to you, that is completely understandable. We really haven't known of soil microbes till 1996 with the advent of the electronic microscope and the fascinating work of Dr. Elaine Ingham, www.soilfoodweb.com. She built the first model of what we call The Soil Foodweb. *See below*



As we can easily see, the foundation of life is built on the shoulders of the soil microbes. Creation knows this and started the whole process and what a beautiful process it is. So remarkable, so intrinsic, so complex, yet so simple. And the plants know this too. Up to 80 % of the total food a plant makes through photosynthesis, it gives freely to the soil microbes to keep the microbes happy and close to it. Now if you gave up to 80% of your paycheck to someone, surely you would expect many benefits back right? That is exactly what happens in the soil/plant world. The plant feeds the microbes and in return, the microbes protect the plant from harm and help it to grow healthier. Which is exactly what happens in the human gut with our own gut microbes.

In Organic Eco-System Management, we have a couple of sayings 'To the Soil, Do No Harm', and, 'Feed the Soil and the Plant'. This is critical as we decide what fertilizers or amendments to put on our lawns, gardens and food crops. When we say 'Feed the Soil' we don't mean to actually feed the quartz or silica in the soil but the little microorganisms that live there. Like the human microbiome, what you feed your

plants/soils will determine the health of your soil. And, it's so important to note that you can't have healthy plants without healthy soils.

Another great saying is, 'You are what your plants eats'. This is absolutely critical for human health which most food providers and medical advisors just don't get. As a consequence, America is the sickest country in the world. We lead all other nations in rates of cancer, obesity, diabetes, dementia, celiac, heart problems and the list goes on and on. Most of the food that is available to us is of very poor quality and begins the onset of chronic disease and early death. Please see The Lancet Report, 'How Diet effects Human Health'

<https://www.medicalnewstoday.com/articles/324897.php>.

The plants and the soil microbes needing each other is the result of Natural Law. Natural Law is the way Mother Nature takes care of herself whether humans are present or not. Most importantly, when we follow Natural Law, which Organic practices do and chemical practices do not, then everything is easier, safer and less expensive. Organics do not cost more money, that is a huge falsehood.

With Organics we are supporting the soil microbes which directly supports us. Up to 30% of the human gut microbes are made up (or should be made up) of soil microbes. The soil microbes build much larger root systems on plants, up to a 100 x larger root system, which means the plant has much greater resiliency. Now it can find water and mineral easier and defend itself. One of the most fascinating family of microbes is the Mycorrhizal Fungi group. We are intimately familiar with them every time we eat mushrooms. But, below ground, they become part of the plant root system.

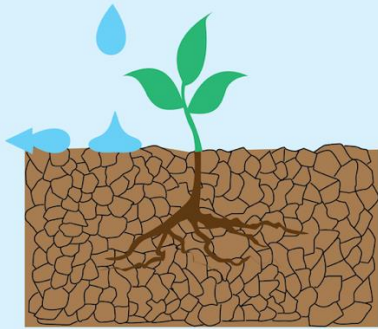
Mycorrhizal Fungi On Root



Even more fascinating is the communication network that microbes create underground, connecting with each other and all the other plants in the eco-system. Our grasses, trees, tomato plants, flowers are all talking to each other via 'The Wood Wide Web' that the microbes have created. This communication system is quite stunning, and it shows how truly intelligent Creation is.

In addition to soil microbes building bigger plant root systems and an incredible communication network, the soil microbes will remediate toxic soil contaminate and improve soil dramatically. Think of your rock-hard clay becoming loam! That will happen with healthy populations of soil microbes. With looser soil we have better oxygen flow which plants adore and much enhanced water conservation. This translates to very significant water costs savings.

Chemical Soil



- Tight Soil
- Low Infiltration
- Low Oxygen
- Small Roots

Organic Soil



- Friable Soil
- High Infiltration
- More Water
- More Oxygen
- Bigger Roots

**Going Organic will save you \$3,000.00
per acre per year**



Bigger roots, healthier plants, better soil, reduce water use, Wow. So, what next? It does not stop there with healthy microbes for they will

bring minerals to plants, manufacture fertilizer for the plants, fight weeds, pest insects and diseases. All this with just a little love and care on our part. In closing, a few bits of direction –

- Never use chemical fertilizers or chemical pesticides on your lawn as they are dangerous to you and kill the good soil microbes. Much like if we eat processed foods and what that does to our gut microbiome.
- Apply Humates or quality Compost once a year. Nature Way Resources makes the best compost & mulch in the area.
- Only use Quality Organic Fertilizers in your eco-system. The best available is what we make, The MicroLife Organic Fertilizer Product line. Complete information can be found at www.microlifefertilizer.com

Quality is extremely important, and I want you to be very successful and very happy.

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Mike Serant – Has been manufacturing MicroLife Organic Fertilizers since 1988. Some of his clients include MD Andersen Cancer Center, Bayou Bend Gardens, Centennial Gardens, The Houston Zoo, The George W Bush Library, Rice University, Mercer Arboretum and The University of Texas at Austin. Mike is also a co-founder of OHBA, a 501-c-3 Organic education provider; www.ohbaonline.org. His company San Jacinto Environmental is the maker of the MicroLife™ line of organic fertilizers and has been a sponsor of this newsletter since its inception.