

Bioresource Needs for Good Soil Health

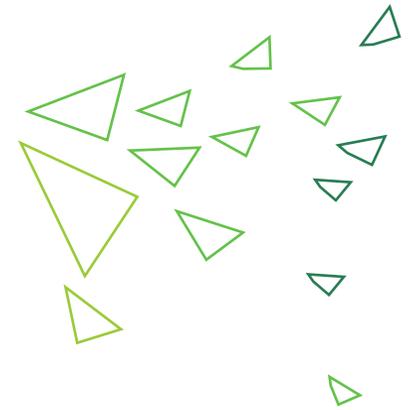
How to foster optimal soil health





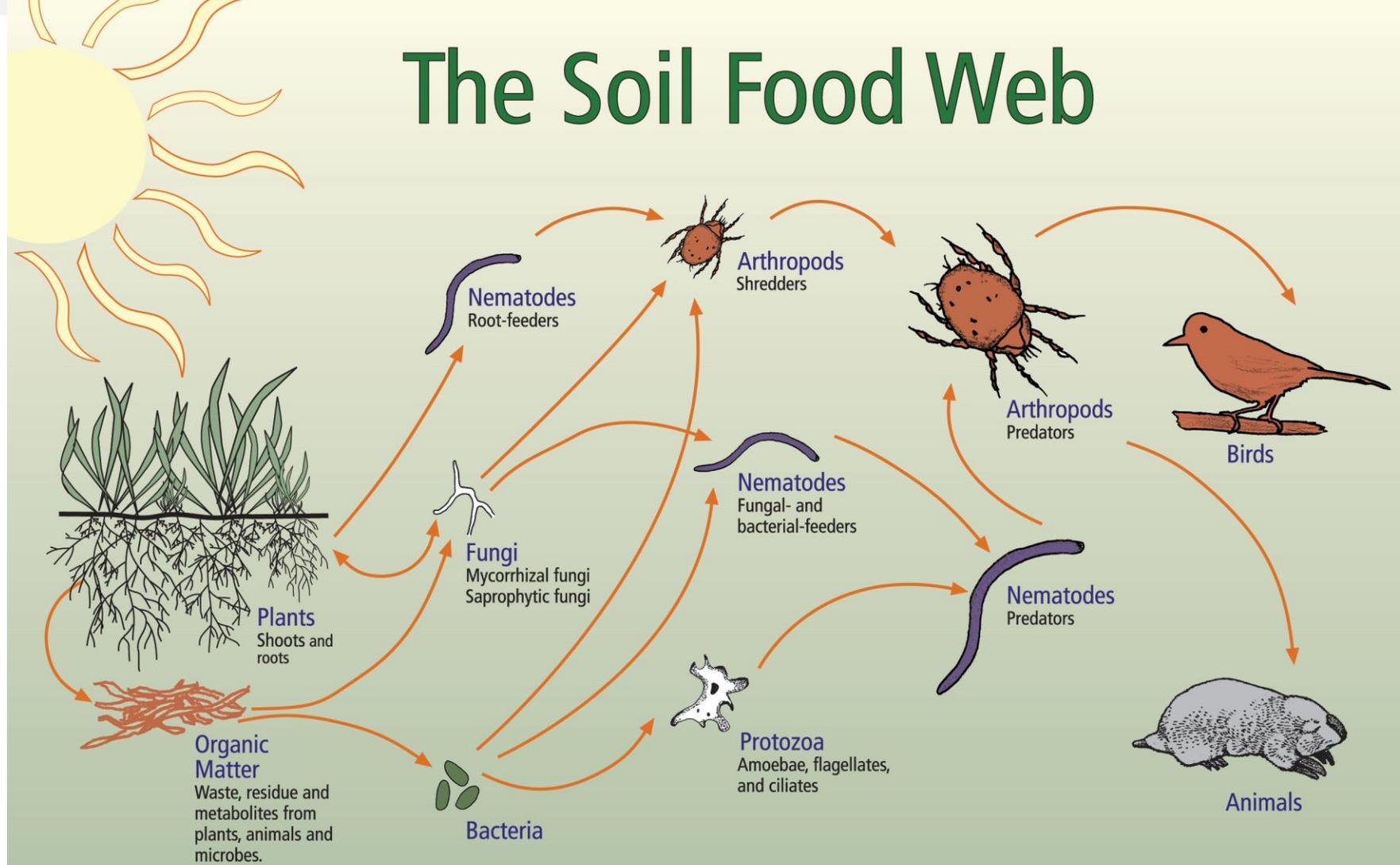
About Us:

- Soil Food Web Consultant
- Work on small to large scale agriculture, ecosystem restoration, landscapes, ...
- Assist in transitioning from conventional growing practices to growing with biology as the primary focus
- Based out of Oregon / California



Introduction to the Soil Food Web

The Soil Food Web



First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, Parasites
Root-feeders

Third trophic level:
Shredders
Predators
Grazers

Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators

Benefits of Farming with Biology

- Pest and disease control without using chemicals
 - Prevention
 - Stronger immune response from the plants
 - Can rely upon natural predators
- Many of the remediation techniques can use existing equipment
- Farm residues can be returned to the soil in the form of compost or mulch
- Improve soil structure: reduce compaction and increase water holding capacity
- ...



The Role of Compost

- Compost is the primary tool that is used to reintroduce beneficial soil microorganisms back into the soil.
- Compost that has a minimum amount of beneficial bacteria, fungi, protozoa, and nematodes is desired for biological farming practices. We call this compost Biologically Complete Compost.
- Biologically Complete Compost can be used in a variety of application practices: soil surface broadcast, nursery planting, and liquid amendments (compost extract & teas).



Biologically Complete Compost



- Has the necessary beneficial microorganisms to provide optimal nutrient cycling.
- Diversity of organisms is critical.
- Can be used to top-dress or incorporate directly into soil.
- Can be used to make compost extracts and teas.
- Must provide the right conditions to maintain the biology in the compost.

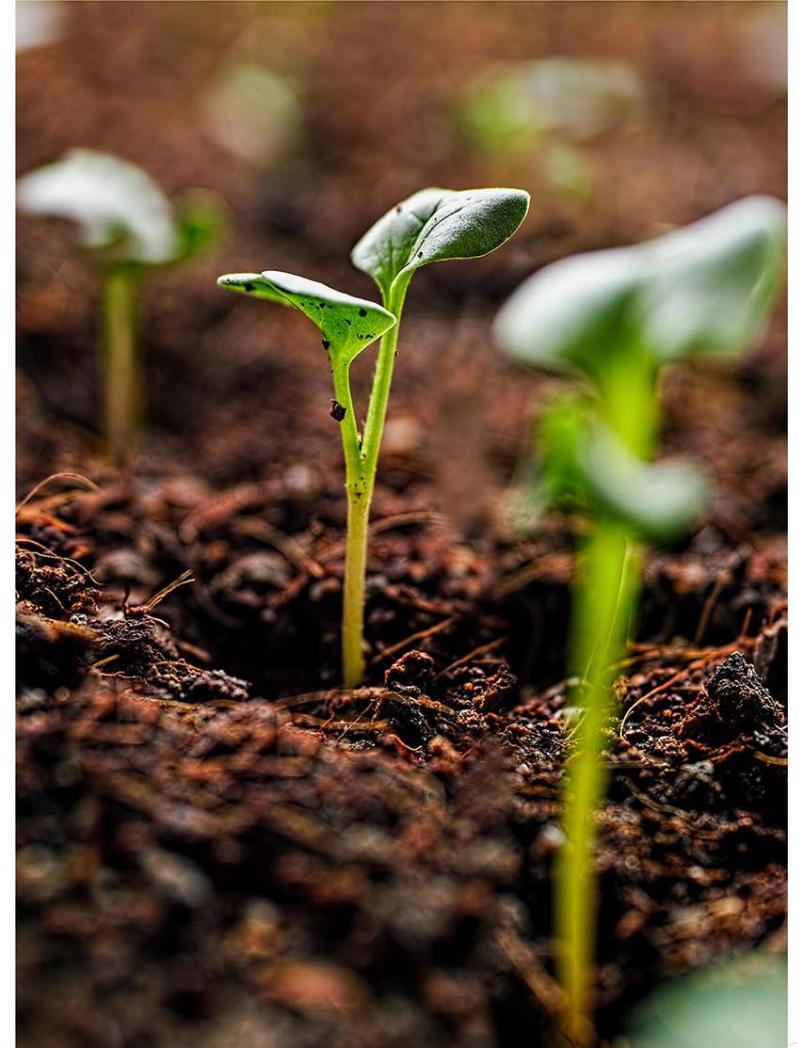
Making Biologically Complete Compost



- Thermophilic Composting is optimal for large scale compost.
- Proper management of time, temperature, and moisture is critical for development of beneficial microorganisms.
- Diversity of inputs equals diversity of the microorganisms.
- Storage of finished compost is important to maintaining good biological counts.

Challenges with Biologically Complete Compost

- Limited supply or availability of Biologically Complete Compost
- Most commercial composts are biologically poor from a soil food web standpoint
- The marketplace for Biologically Complete Compost is relatively new and not well defined
- The consumers of Biologically Complete Compost have different needs – moisture, particle size, etc.



Thank You

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