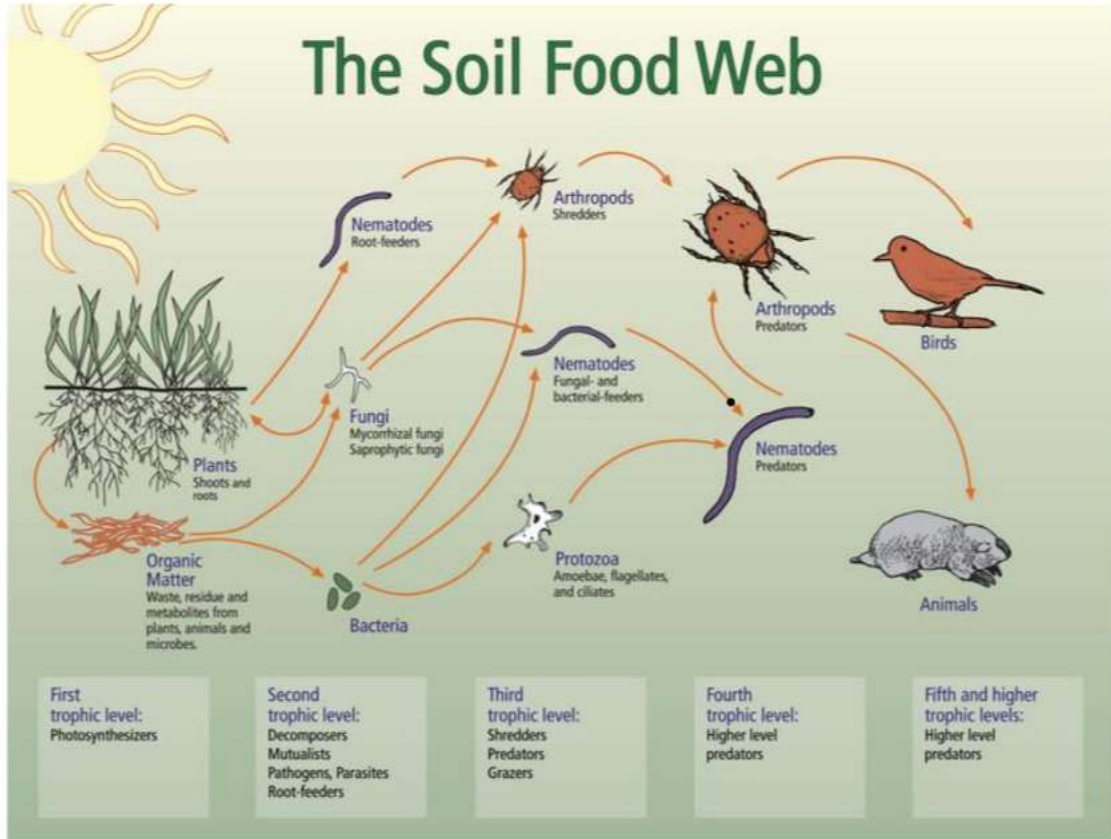




## Organic Approaches to Promoting Soil Nutrient Management How to Maintain a Healthy-Lake Lawn



By: The Pigeon Lake Watershed Management Plan, Cosmetic Fertilizers and Soil Management Committee

Organic approaches to lawn maintenance focus on soil health and the presence of beneficial organisms that improves plant growth and determines soil quality. Within a healthy soil is a living eco-system system that is often ignored.

The Soil Food Web refers to complex and highly organized sets of interactions and processes among plants, bacteria, fungi, protozoa, nematodes and other soil microbes.

These beneficial organisms exist in symbiosis with plants. For example, Mycorrhizae (a fungi) provides tubular structures that extract normally bio unavailable phosphorous that exists in abundance in the soil. Mycorrhizae then delivers phosphorous to plants in exchange for plant manufactured elements that sustain the fungus. At the same time the tubular structures modify the soil to improve moisture and air movement.

## TYPICAL ORGANIC APPROACHES

(source: <http://www.ontariogrowerssupply.com>)

- Most vegetables, annuals, and grasses prefer their nitrogen in nitrate form, and do best in bacterially dominated soils.
- Most trees, shrubs, and perennials prefer their nitrogen in ammonium form and do best in fungally dominated soils.
- Compost can be used to inoculate beneficial microbes and life into soils around your yard and introduce, maintain, or alter the soil food web in a particular area.
- Adding compost and its soil food web to the surface of the soil will inoculate the soil with the same soil food web.
- Aged, brown organic materials support fungi; fresh green organic materials support bacteria.
- Mulch laid on the surface tends to support fungi; mulch worked into the soil tends to support bacteria.
- If you wet and grind mulch thoroughly, it speeds up bacterial colonization.
- Coarse dryer mulches support fungal activity.
- Sugars help bacteria multiply and grow; kelp, humic and fulvic acids and phosphate rock dust help fungi grow.
- By choosing the compost you begin with and what nutrients you add to it, you can make teas that are heavily fungal, bacterially dominated, or balanced.
- Compost teas are very sensitive to chlorine and preservatives in the brewing water and ingredients. • Applications of synthetic fertilizers kill off most or all of the soil food web microbes.
- Stay away from additives that have high NPK numbers.
- Rototilling and excessive soil disturbance destroy or severely damage the soil food web.

Organic soil management proponents maintain that a healthy organically managed soil will require significantly less nutrient inputs for crops, naturally resist noxious weeds and release far less nutrients into adjacent waterbodies.