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Is Your Soil the Life of the Party?

Colorado's landscape palate is restricted by capricious weather and harsh soil conditions. We all talk about the weather – but there is little we can do. What about the soil? There is such a thing as “healthy” and “unhealthy” soils.

Healthy soils team with life known as the “SOIL FOOD WEB” ranging in size from a single cell microbe to small insects and mites. A cup of undisturbed soil has up to 200 billion bacteria, 50 miles of fungal strands and 50,000 small microbes. When we hear of bacteria and fungi – we think diseases. However, these small organisms are beneficial, not harmful.

The soil food web performs essential tasks including decomposing organic matter, cycling nutrients, enhancing soil structure and suppressing plant diseases. In the urban environment; flooding, excessive fertilization, construction excavation, soil compaction and foot traffic all serve to reduce microbial activity.

Soils with little microbial activity support only weeds. Greater microbial diversity supports grasses, shrubs, leafy trees and conifers. Ongoing research is providing answers on how to quantify and manipulate microbes for maximum soil productivity.

What you can do to enhance your soil's productivity?

Practice proper watering, fertilization, mowing and aeration. Avoid excessive watering and fertilization which suppresses microbes. Organic based fertilizers may provide a benefit by slowly releasing nutrients favoring microbial activity. Mulch your lawn clippings. Clippings decompose quickly and provide a source of nutrients and organic matter. Lawn aerations that pull soil cores enhance soil biology by providing decaying plant matter for the microbes to feed on.

Soil amendments and biostimulants

There are a plethora of biological amendments on the market today. These are available in most garden centers and are also provided by commercial landscape services. These products are not surrogates for proper horticulture, but locally have been found beneficial while research is ongoing.

Humus – Organic matter that is left behind by decaying plant and animal matter. The application of humus, humic acid and compost increases the soil microbial diversity.

Mycorrhizae – These are fungi forming symbiotic relationships with the landscape – increasing the plant's ability to gather water and nutrients. In the urban environment, mycorrhizae are thought to be lacking. The addition of inoculants and biostimulants encourage fungal associations.

Compost tea – Teas are concentrated solutions of various components of the soil food web. The application of teas is an emerging science which is showing a great deal of promise.