**What is qualitative soil food web analysis?**

Qualitative analysis is a way to determine the active microbial life in various media such as soil, Compost and aerobic Compost tea. Identifying the presence of "fertilizer bags," like bacteria and fungi indicates the nutrient *retention* capabilities. Likewise, identifying "fertilizer bag openers and spreaders" such as protozoa and nematodes indicates if nutrient *cycling* is occurring. The predator-prey relationship between these organisms is the soil food web in action. Many benefits result from the presence of a diverse soil food web. While nutrient cycling and retention constitute as two benefits there are also the benefits of plant productivity, disease resistance, water retention, carbon sequestration and toxin breakdown.

The foundational of this work lies in the scientific findings that diversity allows for resilience and flexibility in a multitude of environmental changes.

**What you get**

The qualitative soil analysis represents the active microorganism presence in your sample. This means that you will have an idea of what nutrients are being retained and cycled based on the organism presence in the sample. You will receive the data, some photos and potentially videos of the organisms that are in the sample. After the payment is received, Molly Haviland will call you to schedule a 15 min phone consult about the analysis. We will discuss the fungal to bacterial ratio present in the sample and what ratio should be accomplished for the optimum productivity of your growing system. Molly will keep the time and inform you when the 15 minutes is reached. After that time consultation fees begin at $20/15 min.

**Determining Sample Locations**

Look at your land in terms of micro-environments. Where are the dry spots? Weed areas? Soggy areas? Compaction areas? Where are the most productive and least productive areas? Each area of concern will be called a "zone". It could help to print a map of your property and write on it what and where the issues are. *The number of zones you collect samples from will depend on your land, time, and funding. It's recommend to have a sample from the most productive zone on your land for a productivity baseline sample.*

**Collecting Samples**

- You will need buckets, a soil core or shovel, ziplock bags and a permanent marker.
- The amount of samples to take from a zone depends on the zone size and the amount of time you have. The more samples you take from the zone, the more accurate the average will be. Take at least 3 samples from a zone, 5 is better, 20 is best.

- Use a soil core (1/2" to 2" diameter wide) or shovel to gather soil 3 inches below soil surface. Remove significant plant debris from the top of the sample and place the top three inches of the soil in the bucket. After you have gathered samples from a zone, mix them all together very well. You will take 2 cups of this mixture and place it in a 1 gallon ziplock bag. Blow air into the bag and seal it. Label the bag with the date, location (sample name) and your name. Each bag must be labeled with this information. I prefer to not know where the samples came from until we have our phone consultation.

It is ideal to send the samples on the same day you gathered them. I like 'em fresh. If you won't be sending the soil the same day you gathered it, leave the *unmixed* soil in an *uncovered* bucket, store in a cool dark place until your ready to ship. On the day your ready to ship, mix the soil contents of each bucket thoroughly. Each zone will go into it's own labeled bag.

**Sampling Single Plants of Concern**

It matters if your gathering samples from a specific plant of concern like in an orchard or vineyard system vs sampling a pasture or annual field. In the case of specific plants, samples should be taken from between the drip line and stem or trunk (*See Figure A*). The larger the plant, the more samples are needed. When sampling for an orchard or vineyard gather samples using a combination of *Figure A,B, and C*.

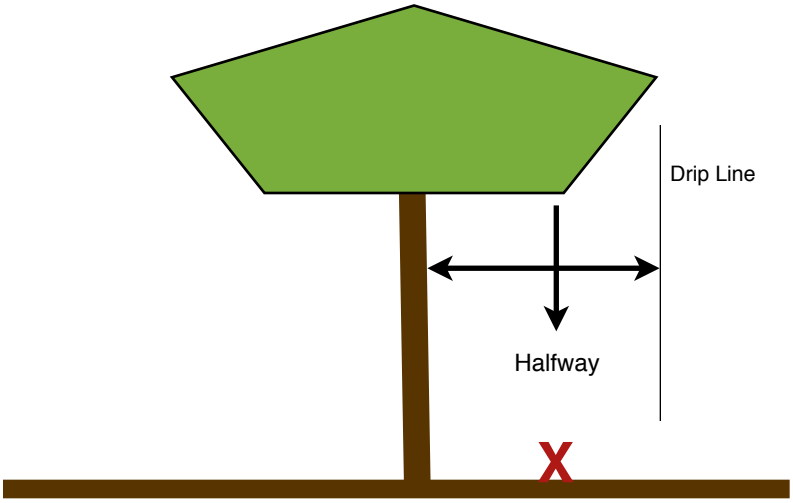


*Figure A: Side view of tree*

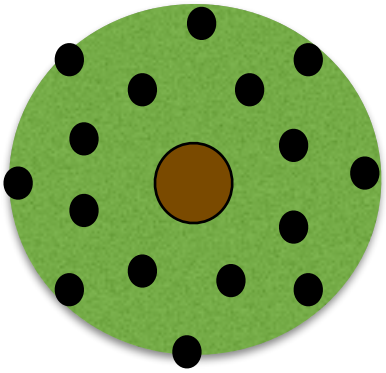

*Figure B: Bird's eye view of a tree . The black dots are sample sites that begin between the drip line and trunk and move out towards the drip line.*

**Sampling Tracts of Land**

You can look at the land as a whole grid. This works well for land that has even plant growth, soil types and elevations. *See Figure C*

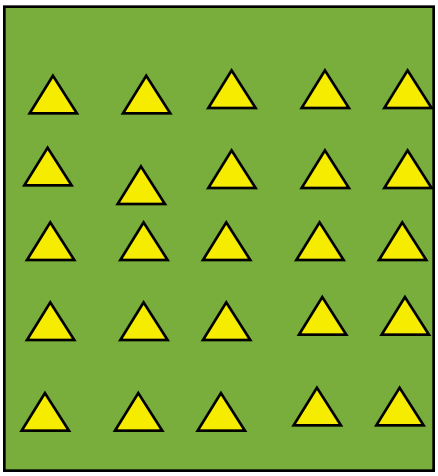

*Figure C*

*Pick 20 random sites throughout the designated area*
*1. Number the site points*
2. Randomly draw 5-15 numbers out of a hat
3. Sample from those points
4. Combine all samples, mix, package, label.

Or

You may look at the topography of your land - this is the preferred method. *See Figure D.*

- Wet areas
- Dry areas
- Weed patch
- Ridge line
- Productive areas
- Non productive areas

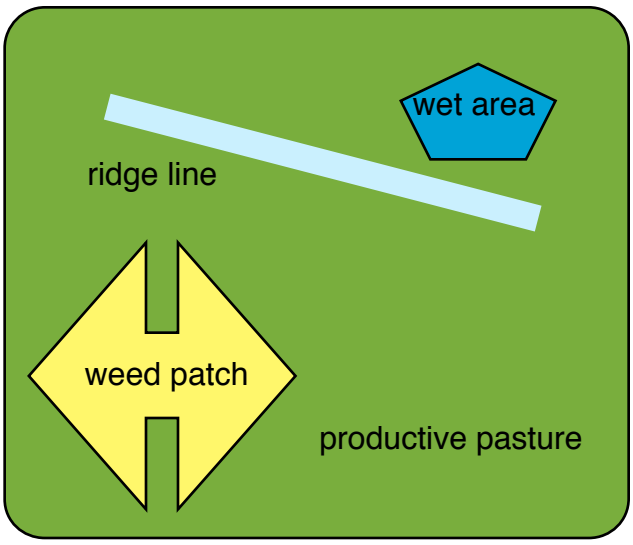


*Figure D*

*Sample for topography:*
1.Split field into habitat areas.
2. Grid each area
3. Number each grid section
4. Pick 3-15 numbers
5. Sample from each point, mix, package, label

**Labeling the Samples**

Every sample sent must be labeled with the site/product name, the company or individual name and the date it was packaged.

**Sending Compost Tea**

Compost tea must be sent overnight. Leave some room in the container (2-4 inches) for air and for the tea to be able to mix around. If you are sending the tea from a warm climate, place a freezer bag in the box with the sample.

**Sending Compost**

Compost should be packaged the same way as soil. *See "Collecting a Sample," bullet 3*. Place two to three cups compost in a 1 gallon ziplock bag blown up with air. Take the sample from various areas in the middle of a finished pile/windrow. "Finished" means the pile is at ambient temperature (the same temperature as the outside). If compost is not ambient, and you are brewing/selling/using it on the land, get an analysis done on the product.

**Shipping the Samples**

Please do not ship the sample to arrive to me on a Friday unless we have arranged this personally. It's best to ship samples on a Monday. Contact me to make an appointment each time you send soil samples. Ship the two day rate for the best price. Overnight is ideal but pricey.

**Payment**

Compost and Compost Tea samples cost $40 each. Soil samples cost $30 each. Data will be released upon payment. It's best to send the check separately on the same day the samples are sent, or tape it to the outside of the box. *Make checks payable to Molly C. Haviland.*