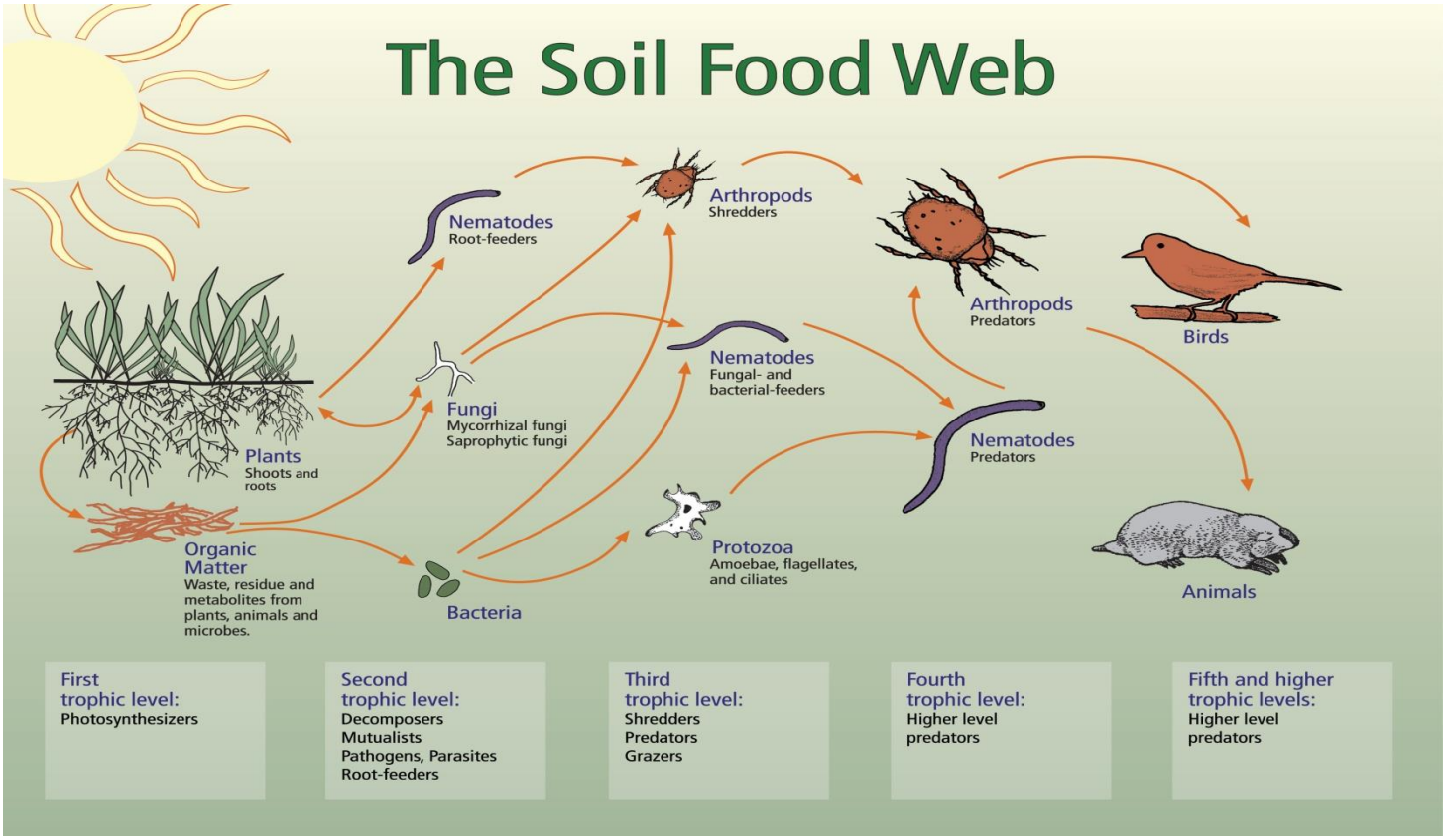

USDA-SARE – Qualities of a Healthy Soil:

1. Accommodates active and diverse populations of beneficial organisms, with plant pest populations minimized by beneficials.
2. Contains high levels of relatively fresh residues that provide beneficials with food.
3. Includes high levels of decomposed organic matter, which help it retain both water and readily leachable nutrients.
4. Contains low levels of such toxic compounds as soluble aluminum and only low to moderate concentrations of salt.
5. Supports adequate levels of nutrients because excessive nutrients can make the crop more attractive to insect pests or can increase the threat of surface or subsurface water pollution.
6. Has a sufficiently porous surface, with many pores connected to subsoil to permit easy entry by rainfall or irrigation water.
7. Has good tilth that allows plant roots to easily penetrate large volumes of soil.

“Teaming with Microbes” - Food Web Gardening Rules:

1. Some plants prefer soils dominated by fungi; others prefer soils dominated by bacteria
2. Most vegetables, annuals, and grasses prefer their nitrogen in nitrate form, and do best in bacterially dominated soils
3. Most trees, shrubs, and perennials prefer their nitrogen in ammonium for and do best in fungally dominated soils.
4. 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.
5. Adding compost and it's soil food web to the surface of the soil will inoculate the soil with the same soil food web.
6. Aged, brown organic materials support fungi; fresh green organic materials support bacteria.
7. Mulch laid on the surface tends to support fungi; mulch worked into the soil tends so support bacteria.
8. If you wet and grind mulch thoroughly, it speeds up bacterial colonization.
9. Coarse dryer mulches support fungal activity.
10. Sugars help bacteria multiply and grow; kelp, humic, and fulvic acids and phosphate rock dust help fungi grow.
11. 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.
12. Compost teas are very sensitive to chlorine and preservatives in the brewing water and ingredients.
13. Applications of synthetic fertilizers kill off most or all of the soil food web microbes.
14. Stay away from additives that have high NPK numbers.
15. Follow any chemical spraying or soil drenching with an application of compost tea.
16. Most conifers and hardwood trees (birch, oak, beech, hickory) form mycorrhizae with ectomycorrhizal fungi.
17. Most vegetables, annuals, grasses, shrubs, softwood trees, and perennials form mycorrhizae with endomycorrhizal fungi.
18. Rototilling and excessive soil disturbance destroy or severely damage the soil food web.
19. Always mix endomycorrhizal fungi with the seeds of annuals and vegetables at planting time or apply them to roots at transplanting time.

Compost Tea Recipes and Ingredients – All Recipes for 5 Gallon Brewer

Balanced Compost Tea Recipe

1. 1.5 pounds of balanced compost (equal parts bacterial to fungal biomass)
2. 1.6 ounces of humic acids
3. 1 ounce of liquid kelp*
4. 1 ounce of soluble unsulphured black-strap molasses

*We've specified liquid kelp here, however, sometimes we like to add a tablespoon of kelp meal as well to provide surfaces for the fungi to attach too.

Bacterial-Dominated Compost Tea Recipe

1. 1.5 pounds of bacterial-dominated compost (vermicastings work well)
2. 2 ounces of cane sugar
3. 1 ounce of soluble kelp

Bacteria love simple sugars, so feel free to add in a teaspoon of maple syrup, or even white sugar.

Fungal-Dominated Compost Tea Recipe

1. 2 pounds of fungal-dominated compost
2. 2 ounces humic acids
3. 2 teaspoons of yucca extract*
4. 1 ounce of liquid kelp
5. 2 tablespoons of ground oatmeal

*We like to add yucca extract near the end of the brewing process, since it has a tendency to create a lot of foam. Also, you'll want to make sure your yucca doesn't have any preservatives, but does have a high saponin content.

Type of Plant	Type of Tea
Cabbage Family Plants	Highly Bacterial
Other Vegetables & Grasses	Moderately Bacterial
Berries and Shrubs	Balanced with Bacteria/Fungi
Deciduous Trees	Moderately Fungal
Coniferous Trees	Highly Fungal

Compost piles built using more “Green” or nitrogen rich material will be Bacterially dominated
Compost piles built using more “Brown” or carbon rich material be Fungally dominated.
http://www.compostjunkie.com/compost-tea-recipe.html