

Soil Health Principles

(This is Didi Pershouse's expanded version of the USDA-NRCS Soil Health Division's soil health principles. See <http://soilcarboncoalition.org/learn> or www.didipershouse.com for more information.)

- Soil life is hard at work building a living “soil carbon sponge” that makes life on land possible. Reduce/eliminate tillage to allow the soil sponge to thrive.
- Much of soil life is fed by liquid carbon compounds produced by photosynthesis, exuded via living plant roots. Maximize acreage, leaf area, and length of green growth, keeping living roots in the ground as long as possible.
- Soil life needs protection from heat, pounding rain, and wind. Keep soil covered year-round (preferably with plants and a layer of decaying plant litter.)
- A diverse system is more resilient than a monoculture. Use plant diversity to increase diversity in soil microorganisms, beneficial insects, and other species.
- Like any other living system, soil ecology will succumb to overwhelming stresses (such as excessive use of biocides, compaction, undergrazing, overgrazing, etc.) Minimize chemical, physical, and biological stresses.
- A healthy landscape stores and filters water, cools the surrounding atmosphere, creates mist and clouds, and is resilient to flooding and drought. Complex systems involving all kingdoms of life are responsible for the water cycle on land and in the atmosphere. Plan, monitor, and adapt your management with the whole water cycle in mind.
- Nature never farms without animals. Animals move nutrients, create small and large pores in soil, manage flows of water, pollinate crops, balance predator/ prey relationships, and replenish soil microbes. Find ways to integrate and welcome a diversity of animals, birds, and insects into the system.
- Every place has a history, and unique strengths and vulnerabilities. Get to know the whole context of the land and the life that is involved in it.

July 2018