



# Horn Farm

*Center for Agricultural Education*

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## **Regenerative Agriculture**

Regenerative Agriculture is a holistic land management practice that leverages the power of photosynthesis to close the carbon cycle, and to build soil health, plant nutritional density, and crop resilience. Regenerative agriculture improves soil health by increasing soil organic matter--which is primarily carbon-based. Better soil health leads to increased biodiversity above and below the soil surface. Restoration of the soil carbon sponge allows for the restoration of the water cycle. Increased water percolation, filtering, and retention improves ecosystem health. By regenerating farmscapes we can rehydrate and naturally cool our climate.

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### Soil Health Principles\*

- Much of soil life is fed by liquid carbon compounds produced by photosynthesis, exuded through living plant roots. Keep living roots in the ground as long as possible.
- Soil life is hard at work building underground structures that make life on land possible. Try not to disturb those underground structures with tillage.
- Soil life needs protection from heat, pounding rain, and wind. Keep soil covered year-round (preferably with plants.)
- 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 prevents flooding and drought. Complex systems involving all kingdoms of life are responsible for the water cycle on land. 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 context of the land.

\*This is an expanded version of the USDA-NRCS (United States Department of Agriculture - Natural Resources and Conservation Services) Soil Health Division's soil health principles.

For more information visit:

<http://soilcarboncoalition.org/learn>

<http://www.globalcoolingearth.org/>

<http://www.drawdown.org/solutions-summary-by-rank>

<https://www.greenamerica.org/blog/regenerative-agriculture-infographic-sources>

We build community resilience by demonstrating holistic land management practices that provide food along with ecological and economic benefits.