Native Farm to School

A Project of First Nations Development Institute

THE JOY OF SOIL HEALTH
Healthy soil provides many benefits, including increasing our imperiled water supply, improving public health, supporting rural economic development while reducing pollution and erosion, sequestering atmospheric carbon, and boosting resilience to flooding and drought.

Minimize soil disturbance & external inputs
Tilling, chemical fertilizers, herbicides, and pesticides harm the web of life in the soil and should be avoided as much as possible. Alternatively, compost boosts soil health, promoting healthier plants and resilience towards disease, and supporting microbes that feed directly on parasites.

Keep soil covered
Soil cover is critical to protect soil from wind and water erosion, provide food and habitat for macro and microorganisms, and prevent moisture evaporation and germination of weed seeds in farm fields. Soil cover is best for growing plants year-round, but mulching is an alternative.

Maximize biodiversity
Greater diversity above and below the ground creates more resilient and productive lands. Each plant, insect or animal has something different to offer and each of them plays a role in maintaining soil health. Nature does not know monocultures, instead diversity enhances ecosystem function.

Maintain living roots
Soil organisms cluster around roots, where they exchange nutrients with plants. Those living roots provide their basic food source: carbon. In turn, the soil biology fuels the plant nutrient cycle. A variety of warm and cool season grasses, perennials, or cover crops all ensure continuous roots year-round.

Integrate Animals
A healthy, functioning ecosystem provides habitat for animals large and small, including pollinators, earthworms, and all of the soil microbiology. Planned grazing which mimics migratory herds of ungulates is essential for soil health on rangeland: animals are moved quickly through pastures in one compact herd, giving grasses adequate time to recover in between grazing periods.
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KNOW YOUR CONTEXT
While these five principles apply to any ecosystem anywhere, it’s essential to consider your specific environment and goals when working to improve soil health. Application of these principles will look different whether you are running a farm business, restoring rangeland, or taking care of a wilderness area, for example. The methods used should always reflect where you are and what you are looking to achieve.