

# The Ancient Roots of Sustainability

page 10

page 10

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This is the latest installment in our *Signs of Sustainability* series, organized by Sustainable Tompkins. Visit them online at [www.sustainabletompkins.org](http://www.sustainabletompkins.org).

This is part two of a series on the "Steps to Sustainability."

The modern concept of sustainability was launched in 1987 with the publication of "Our Common Future," the report of the United Nations-sponsored World Commission on Environment and Development. Sustainable practices, however, existed from ancient times in many traditional societies.

The Western Hemisphere's indigenous peoples domesticated a large portion of today's foods, including corn, potatoes, tomatoes, beans, peanuts, sunflowers, squash, chocolate, sweet peppers, quinoa and cassava. Many pre-1492 farmers planted on milpas, or crop

mounds. These cause much less soil erosion than European row planting. Native peoples often practiced polyculture, mixing a variety of crops on a field, which promotes biodiversity and lessens the losses from pests. Modern permaculture makes use of both techniques today.

Indigenous farmers understood the value of animal dung as fertilizer and supplemented it with human waste. A careful use of fire stimulated the growth of helpful bacteria. Recent historical and agricultural research now suggests that the Eastern Woodlands peoples, who lived in the region that includes Tompkins County today, maximized their output of grains, seeds, nuts and berries and attracted deer and other game to the edges of their villages by using managed burnings to generate environmental successions.

These systems are sometimes

called "human induced fire based subclimaxes." By not totally clearing the forest areas, they left in place the root systems of larger trees, allowing the trees to exchange underground nutrients. Recent studies indicate that many plants use mycorrhiza (mutual fungus root associations) to exchange nutrients.

The most famous Native American agricultural discovery is "the three sisters." This system joins corn, beans and squash on slightly raised mounds (milpas) so that the plants can assist each other. The corn provides a pole for the beans to climb on, the beans "accumulate" nitrogen, which feeds the corn, and the squash have large leaves that help control weed growth and hold moisture in the soil.

The Seneca Nation employed at least one organic biological pest control practice: soaking seeds in Hellebore to make the plant repellant to birds and other pests. The three sisters system is now thought to be at least 650 years old in the Finger Lakes region, but might date back 6,000 years in Mexico, where findings suggest the three crops were already being planted together.

Haudenosaunee farmers grew at least five types of corn, 60 varieties of beans and several types of squash; the three sisters make up a fairly nutritious combination of proteins. The Seneca made corn into hominy by soaking it in wood ash, which makes it easier for humans to absorb the niacin, making the corn healthier for humans.

The three sisters system produces far less corn per acre than does modern corn monocropping, but when the beans and squash are added in, a three sisters field may actually yield greater total nutritional value. And, the three sisters system preserves the soil rather than depleting it.

The Haudenosaunee are also known in the history of sustainability for the famous "seventh generation" quote: "In every deliberation, we must consider the impact on the seventh generation...." It now appears that this quote does not originate in Dekanawidah's "Great Law of Peace," as thought earlier, but the language in Article 28 of that document nevertheless indicates an acute awareness of the importance of sustainability:

"In all of your deliberations in the Confederate Council, in your efforts at law making, in all your official acts, self interest shall be cast into oblivion.... Look and listen for the welfare of the whole people and have always in view not only the present but also the coming generations, even those whose faces are yet beneath the surface of the ground - the unborn of the future Nation."

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