

The Indigenous Origins of Regenerative Agriculture

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On the second Monday of every October, **Indigenous Peoples' Day** is celebrated across the United States to honor the original inhabitants of the Americas. On this Indigenous Peoples' Day, National Farmers Union (NFU) celebrates the invaluable contributions of Native Americans and the Indigenous origins of many practices currently used in the regenerative agricultural movement.

Long before the arrival of Europeans, Indigenous populations protected local ecosystems and preserved biodiversity through land management and farming practices. European settlers did not arrive at an 'untouched land,' an idea known as the 'pristine myth' of the early Americas. **Charles Mann**, the author of "1491: New Revelations of the Americas Before Columbus," notes how the pristine land myth obscures the reality that Indigenous Americans actively shaped the environment around them. As we rethink American history, we can thank Indigenous Americans for advancing practices that define sustainable agriculture and land stewardship.

Intercropping and Polycultures

Diverse farming systems are central to today's regenerative agriculture movement – but the concept is far from new. For hundreds of years, Indigenous Americans have planted more than one crop together in a practice known as intercropping. Intercropping is based on synergy in which the physical aspects of each plant complement one another and improve each other's health and growth. A combination of corn, beans, and squash known as the '**Three Sisters**' was cultivated extensively by the **Iroquois in the Northeast**. In this system, the corn stalks provide a natural trellis for the beans to grow on, which in turn help the corn grow by adding nitrogen to the soil. At the same time, the squash vines act as a "**living mulch**" that maintains soil moisture and prevents weeds from growing.

Successful intercropping relies on growing crops that complement one another and minimally compete for resources. When done correctly, this practice can improve crop productivity, crop yield stability over time, and overall soil health. Intercropping can also help manage pests naturally, reducing weeds, insects, and diseases. The principles of intercropping can also be **applied to cover crops**, so as to improve soil health, sequester carbon, and bolster biodiversity year-round.

Polycultures, or planting different species of plants in the same area in a way that imitates nature, has similar benefits to intercropping. Research by **Dr. Jane Mt. Pleasant**, an agronomist at Cornell University of Tuscarora descent, showed how intercropping was a highly productive and advantageous system for reasons other than technological necessity. **Other studies** on the 'Three Sisters' system in the

Northeast have shown how polycultures are more efficient at using nutrients, light, and water than monocultures.

Water Management

The modern sustainable agriculture movement prioritizes water management and climate-specific adaptations using many pre-colonial practices. For example, Indigenous communities in more humid climates **planted** the Three Sisters on mounds of soil, which drains the soil of excess moisture. Today, mounds are still used as a way to preserve soil and reduce erosion.

In contrast, the **Hohokam tribe in Arizona** dug and maintained canals as an irrigation system to facilitate farming in a relatively arid climate. Similarly, the Pueblo peoples used light **dams** to prevent deep ruts and gullies from forming and redirect the water for agricultural and other purposes. Farmers in dry regions continue use these and other Indigenous practices in order to overcome environmental challenges and preserve natural resources.

Agroforestry

Indigenous Americans practiced **agroforestry**, or the management of trees, crops, and animals together in a way that benefits all three. **Silviculture**, the management of tree growth and forest composition, was practiced in the prehistoric Eastern Woodlands and to foster wildlife populations and improve hunting. Along those same lines, Native Americans also grazed animals among trees using a practice now known as **silvopasture**. Both of these methods can improve forest health, increase soil carbon sequestration, provide shade for animals, and expand habitat for wildlife.

Across the Americas, Indigenous populations used controlled fires to manage forests. Over time, trees would grow back in a process known as **environmental succession**, shifting nutrients from the soil to an organic form. The grasslands of the Midwest and Southwest resulted from **swidden agriculture** which involves selectively burning forests to use ash as a fertilizer for crops and promote regeneration over time. This practice resulted in the forests that emerged after colonial practices removed Indigenous populations from their land; to this day, those forests cover land in Wisconsin, Illinois, and the Texas Hill Country.

Permaculture

Permaculture refers to agricultural systems that are sustainable and mimic natural patterns while allowing for production. The core of permaculture is working with, as opposed to against, natural forces and having a deep understanding of the local environment. By planting species that accumulated or 'fixed' nitrogen and other vital nutrients to the soil, Native Americans overcame a main limiting factor in plant growth. Indigenous populations in the Northeast and Midwest planted legumes, a nitrogen-fixing crop, a practice that is now used to reduce dependence on fertilizers and improve soil health.