



Effective Organizations - Land Institute

Problem: Clean water, clean air, productive soil and biodiversity are the fruits of Earth's complex ecosystems. But for 10,000 years annual monoculture agriculture has dismantled that complexity to produce more food, more reliably. Our current agricultural system erodes and degrades soil, requires toxic inputs, causes oceanic dead zones and releases atmospheric carbon. Industrial scale ecological destruction combined with the system's reliance on fossil fuel intensive inputs threatens the sustainability of the system and the human population it feeds.

Solution: Natural systems agriculture: perennial grain crops grown in mixtures that mimic natural systems.

The Land Institute is creating a new agriculture informed by nature's ecosystems. Our scientists are developing perennial grain species with an eye to their being grown in diverse arrangements that will require less fossil fuel, conserve soil and water, and better adapt to weather extremes that accompany climate change. This new agriculture produces food and reduces the loss of biodiversity. Perennial grain crops provide year-round cover, shield soil from wind, absorb moisture, and slow surface runoff. Their extensive root systems host micro-organisms and invertebrates critical to healthy soil. Perennial polyculture systems provide food for years without replanting and interact in complementary ways to manage nutrients, fertility and pests, thereby requiring less fossil fuel. Moreover, perennial polycultures can sequester atmospheric carbon dioxide, replacing soil carbon lost when agriculture displaced native ecosystems.



Organization: The Land Institute

The Land Institute is a non-profit research and education organization housed in a modest collection of buildings on the bank of the Smoky Hill River in central Kansas. The organization was founded by Wes Jackson, on the principle that "using nature as a model for agriculture makes possible...the sustainable production of food." In addition to the work in Kansas, The Land Institute is building an ever-expanding network of research partners and collaborators across the globe.

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