

THE LAND INSTITUTE

Salina, Kansas

When people, land, and community are as one, all three members prosper; when they relate not as members but as competing interests, all three are exploited. By consulting Nature as the source and measure of that membership, The Land Institute seeks to develop an agriculture that will save soil from being lost or poisoned while promoting a community life at once prosperous and enduring.

—Mission Statement

The Land Institute was founded in 1976 by Wes Jackson and his wife, Dana, to research and model new agricultural production methods that exemplify the best of sustainability — in agriculture, water and energy efficiency, waste management, and shelter. According to Dr. Jackson, a farmer and plant geneticist, its goal is to develop a system of agriculture that “saves the soil, runs on sunlight, and rebuilds local community.” This small institute demonstrates what an enormous impact dedicated individuals with vision can have by virtue of their commitment to change, their ability to model what they believe in, and their inspiration to others.

Located on 28 acres south of Salina along the Smoky Hill River, the Land Institute now covers 275 acres, 100 of which are the original prairie. It began as a school to explore and model sustainability. Classes were first held in the fall of 1976, but within a month a fire destroyed the building. What happened next is symbolic. The students stayed and worked with the Jacksons to use the resources available to build a solar-heated classroom, an office and library and to begin their research.

For over two decades, staff, researchers and students have been learning from native prairies, seeking to identify and grow perennial prairie grasses in mixtures that would collectively retain and build topsoil, hold moisture, counter pests naturally, produce high yields of edible seeds, and require minimum tillage. They are using the

best of traditional empirically-derived approaches.

Philosophy

The Land Institute is based on a philosophy of “Natural Systems Agriculture”, or an agricultural system that takes its cue from natural ecosystems whether they be prairies, tropical rainforests, coral reefs, alpine meadows or Arctic tundra. It is this fundamental belief that distinguishes the Land Institute from other research institutions. Natural ecosystems cannot be understood by looking at individual parts rather than as an integrated whole.

He sees nature as an analogue, believing that ecosystems have worked for millions of years and have much to teach us.



To the extent that researchers can unlock their secrets, the land and people will benefit. The challenge is to develop a more sustainable agricultural system.

Learning from the prairie

In their research, the Institute has tried to answer the following questions: Will perennials have the same high yields of seeds produced by annuals? Will this system address pest management effectively? Will a polyculture produce as much or more than a monoculture? Will it produce its own nitrogen? Through its research, the Land Institute has answered all the questions except how the prairie can adequately develop its own nitrogen.

Innovative research and education

To expand this research the Land Institute recently joined forces with Kansas State University in a collaborative development of a project. It will set up ten “plant materials” systems centers around the

country. They will be located in different parts of the country so that an ecosystem approach can be adapted to local conditions and different environmental conditions.

In each center there will be a team of scientists comprised of ecologists, plant breeders, biotechnologists and environmental historians. All the scientists will be under 40 so that in their lifetimes they can see the results of their experiments to find what kinds of polycultures, or mixtures of plants, will be best suited to different landscapes. Dr. Jackson estimates that this 25-year program will cost around \$750 million.

The Land Institute has also had some influence on what land grant universities teach and research. Admirers in many of these institutions are engaged in polyculture research and work in collaboration with the Land Institute and Kansas State. Because of these efforts and increased public interest, educational institutions are addressing sustainable agriculture more than before.

The transmission of this approach to the next generation and to interested colleagues is integral to the mission of this institution. Every year eight to ten interns come for ten months to study, write, conduct research, work, and grow crops. Visiting scholars come as well.

Dr. Jackson is also a prolific writer and lecturer. He has written three books, *Becoming Native to this Place*, *Altars of Unhewn Stone: Science and the Earth*, and *New Roots for Agriculture*, as well as many articles, and given numerous interviews.

Translating vision into action

■ Sunshine Farm Project

Begun in 1991, this project is intended to provide a type of control for comparisons with the Land Institute’s perennial prairie polyculture research model. Conventional crops such as wheat, alfalfa and sorghum, or monocultures, are being grown but using sustainable practices. The Land Institute is also using an integrated approach that includes draft animals, tractors fueled with vegetable oil, wind turbines, crop rotations, and conservation tillage. By developing a farm that is regenerative and self-sufficient in energy and food and that receives no subsidies, they will be able to contrast and evaluate the two operations.

■ *Matfield Green - an experiment in "keeping the books"*

In this new experiment, a small town of 50 in the Flint Hills will be used to gather data on inflows and outflows of materials, or what Dr. Jackson terms "setting up the books for ecological community accounting." Here, as in many rural areas, there is an increasing loss of "cultural seed stock" and with it the diverse knowledge base that is a strength of any community.

Once a thriving town, Matfield Green has lost most of its residents to the cities. What it has retained is clean air and water and a healthy quality of life. Here, the Land Institute is developing a rural studies center where researchers will identify how "to live within ecological limits." Several assumptions are made: that communities can be studied; that they have 'ecological capital'; that capital loss can be tracked; and that communities need to "balance the books" if they are to be sustainable.

Unlike human settlements, the prairie has two identifiable features: everything runs on sunlight, and it recycles all materials. In this study, the Institute will attempt to identify what principles guide the human community. How can we learn to live more sustainable lives? What is missing or what could be added to the community experience that would help guide the community toward sustainability? Matfield Green will become the research center to answer these questions.

Back to the future

Dr. Jackson uses the following analogy to explain the status of the Institute's research. In 1903 the Wright brothers knew they were on to something when they got the plane airborne at Kitty Hawk, but they could not have foreseen the day when jets could fly across the ocean. He explains that they are at the very beginning of a significant revolution in agriculture and he cannot predict where this experiment is going. He is certain that the kind of agriculture the Institute is seeking to model will reflect the wisdom of ecosystems they are studying.

Challenges

The Land Institute is primarily funded by foundation grants and contributions

How To Get in Touch with The Land Institute

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Scope: National

Inception Date: 1976

Participants: Researchers, interns, scientists, land grant university

Project type: Sustainable agriculture, natural resource conservation, public education

Methods used: Research, peer-reviewed results, educational centers and programs, partnerships with universities

Lessons learned: Importance of vision, long-term view and demonstration of principles. Value of educational exchange.

from supporters in all 50 states and a number of other countries. Like many nonprofit organizations it is vulnerable to changes in foundation priorities and to the desire for short-term results. Reductions in funding in recent years have meant that the staff has been reduced and salaries cut. Although the ten centers will require substantial funding, Dr. Jackson estimates that the return on investment will be substantial and is seeking government funding for the centers.

Through its research and by training students and spreading the word among the research community and reaching a wider audience, the Land Institute is increasing the number of people and projects teaching and researching in this new kind of thinking. It has already and continues to make a remarkable contribution to developing innovative means of sustaining land, water, air, people and communities.

— *CONCERN, Inc*

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The Land Institute continues to research and promote Natural Systems Agriculture (NSA) and build support for its efforts. Recently, the Ecological Society of America incorporated a NSA symposium into its agenda. In order to increase funding, the Institute has launched a major initiative to raise support from private sector foundations and institutions. Agronomists, ecologists, and biotechnicians nationwide are assisting in the development of a fundraising plan and presentation.

The Institute has maintained its existing projects and begun new ones. Sunshine Farm held its second Farm Field Day to demonstrate sustainable farming techniques to neighboring farmers and to show how, in the long run, NSA is more cost-effective than the widespread agro-industrial techniques. Sunshine Farm's data suggests that, in the long run, sustainable practices make sense environmentally and economically. Many were impressed, but are not yet converted.

The Institute hosted a workshop to train teachers how to develop the skills for integrating place-based education in the classroom. This method teaches students to appreciate the land and to understand it from cultural, economic, and environmental perspectives. Four school districts are now incorporating place-based education into the curriculum.

The Rural Community Studies project at Matfield Green is ongoing. Data collection has begun for the Ecological Community Accounting project, which "keeps the books" on all material inflows and outflows through the town.

- *CONCERN, Inc.*