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The Land Institute

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Society of the Quarter

The Land Institute

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Madeleine Charney

“The soil is the great connector of our lives, the source and destination of all.”

-- Wendell Berry, *The Unsettling of America*, 1977.

Introduction

According to the mission statement on its website, The Land Institute (LA) “seeks to develop an agriculture that will save soil from being lost or poisoned while promoting a community life at once prosperous and enduring” (Land Institute, *About Us*, 2009, ¶ 1). This sweeping vision sees people as intimately interconnected with land and food and finely threads its way through the Institute’s work and philosophy.

Wes Jackson, a plant geneticist, founded this nonprofit research and education organization in 1976. Based in Salina, Kansas, LA diligently promotes its vision through activities such as:

- developing an agricultural system with the ecological stability of the prairie yet a grain yield comparable to that from annual crops;
- publishing its research findings in refereed scientific journals;
- presenting public talks in the U.S. and abroad, as well as hosting a wide range of intellectuals and scientists; and

- collaborating with public institutions to acquire funding and encourage research that promotes the growth and understanding of Natural Systems Agriculture.

(Land Institute, *Introduction and Mission*, 2009 ¶ 1)

Agriculture, Not All it Seems

Jerry Glover, an agroecologist employed by the Institute, explains a startling and little known irony - that modern agriculture “has been identified as the greatest threat to biodiversity and ecosystem function of any human activity,” and that “agriculture-related problems will probably worsen as the human population expands - that is, unless we reshape agriculture” (Glover & Reganold, 2010, p.41). The authors contend that modern agriculture is a threat because of its contribution to climate change, rising energy costs, and land degradation. Compounding the problem is the number of people Glover and Reganold call “urgently hungry,” which is estimated at the highest level in recorded history - roughly one billion. And yet the methods for attempting to produce enough food to feed the world are contributing to the problem. So how shall we reshape agriculture, as Glover and Reganold implore?

Natural Systems Agriculture

Enter, Natural Systems Agriculture, the cornerstone of LA’s work. A paradigm for food production, Natural Systems Agriculture is as much a philosophy as it is an agricultural practice, asking the scientist and farmer to mimic patterns found in the natural world. For LA, the native Midwest prairie is the model landscape for grain crop trials and production. LA’s work is unique

in its investigation of the feasibility of growing perennial grains, a sustainable approach to agriculture extolled worldwide for its practicality and sensitivity to the needs of those in developing countries. The goal is to create agricultural systems which are resilient (and therefore productive over the long term), economical (the need for costly inputs would be significantly diminished), and ecologically responsible (Land Institute, *Natural Systems Agriculture*, 2006).

Glover and Reganold (2010) reveal another little known fact about agriculture - fruits and vegetables make up only a small part of the agricultural production pie. The dominant crops, occupying 75% of U.S. and 69% of global croplands, are oilseed, legumes, and cereal grains (e.g., wheat, rice and maize). Relying on annual crops, they posit, is a highly inefficient and ineffective, even dangerous, approach to food production. Such crops must be replanted each year, require heavy use of fertilizers and pesticides, contribute to soil erosion, and fail to provide wildlife habitat. In addition, the conventional production of these crops emits greenhouse gases, which contribute to climate change and further threaten agricultural productivity. The authors explain the common-sense benefits of raising perennial crops, including: the elimination of annual replanting; an extensive root system that competes against weeds and effectively captures nutrients and water; soil replenishment and conservation; and year-round cover. Farmers use less fuel for their tractors and are freed from the intensive field attention required when growing annuals. This benefits the consumer with lower prices and the reduction in time and labor affords farmers a better quality of life for themselves and their workers (Glover & Reganold, 2010, p.41-42). In essence, Natural Systems Agriculture is a more ecologically sound and humane approach to growing food.

Programs, Publications, Publicity, and Events

LA has a role in a multitude of projects, including primary sponsorship of Perennial Grain Cropping Research, breeding perennial varieties of maize, rice, chickpea, millets, and flax. Its Climate and Energy Project (CEP) works toward infusing community, regional, and national discussions of climate and energy with the core values of stewardship, resilience, balance, and innovation. CEP cultivates alliances between various groups committed to the reduction of greenhouse gas emissions through increasing energy efficiency and developing renewable energies in a sustainable manner (Climate and Energy Project, 2010). This project receives its funding from nonprofit philanthropic foundations. For more information see

<http://www.climateandenergy.org/>.

LA staff regularly publish their findings and ideas in scholarly publication such as *Science*, *BioScience*, and *Renewable Agriculture and Food Systems*, as well as venues for more general audiences. In 2009, *Rolling Stone* included Wes Jackson in a piece about "100 Agents of Change," and Jerry Glover was named one of 14 visionary, young trailblazers, part of the 2010 class of National Geographic Emerging Explorers (National Geographic, 2010). An archive of free articles from the Institute's Prairie Writers Circle provides access to the work of such authors as Bill McKibben and Richard Manning, covering topics ranging from farming, farm policy, and energy to the rural community and economics. LA offers lectures on sustainable agriculture topics throughout the year. And people travel from around the U. S. to attend the annual "Prairie Festival," which features presentations by well-known writers, researchers, economists, ecologists, and activists such as Wendell Berry. The September 2010 festival (see <http://www.landinstitute.org/vnews/display.v/ART/2010/01/29/4b6357f88ae4e>) celebrated the

grand opening of LA's new research center dedicated to the study of Natural Systems Agriculture.

Future Directions

Construction of the research center marks a monumental step forward towards LA's success. The center will allow for the underwriting of research scientists worldwide engaged with Natural Systems Agriculture. The study and eventual adoption of Natural Systems Agriculture has the potential to deeply influence agricultural scientists from industrialized societies and, by extension, scientific research in developing countries. Perennial crops research may steer researchers away from perpetuating fossil fuel-intensive agronomic methods and technologies, which saddle developing countries with brittle economies (Land Institute, *Introduction and Mission*, 2009 ¶ 3). Natural Systems Agriculture "could boost prospects for farmers in the developed world, since much of their gross income is spent on the seeds, fertilizers, and pesticides needed for annual crops. Perennial crops would offer a way to cut those expensive inputs and plow more profit back to farm families and communities" (National Geographic, 2010 ¶ 10). More than half the world's population depends on marginal landscapes for food production. While these lands are unsuitable for annual crop production, perennial crops could thrive, to the benefit of the populations of many developing nations (National Geographic, 2010 ¶ 9).

Permaculture, a Close Cousin?

While researching this organization, I noticed that Natural Systems Agriculture appears to be closely aligned with the permaculture movement. The word "permaculture" was coined in 1978

by Bill Mollison, an Australian ecologist, and one of his students, David Holmgren. It is a contraction of "permanent agriculture" or "permanent culture." Permaculture is "a land use and community building movement which strives for the harmonious integration of human dwellings, microclimate, annual and perennial plants, animals, soils, and water into stable, productive communities. The focus is not on these elements themselves, but rather on the relationships created among them by the way we place them in the landscape. This synergy is further enhanced by mimicking patterns found in nature" (Diver, 2002). If readers of this column find these themes energizing, perusing the literature on permaculture may lead to satisfying and fruitful practical and intellectual endeavors. Wes Jackson, Jerry Glover and their likeminded colleagues around the world seem to agree: There is an intrinsic interconnection between plants and people, and "reshaping" this relationship is crucial to the survival of our planet.

Making Contact

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