

Moving toward Sustainable Farming Practices

Agriculture and Natural Resources Fact Sheet #533

Many compelling factors are prompting farmers to use more sustainable practices (see side bar for definition of terms). The high cost of energy, low profit margins of conventional methods, increasing environmental awareness of consumers, growers, and regulators, and stronger markets for alternatively grown products are just a few.

Implementing sustainable farming practices is not always easy and comes with some inherent risks. Lower yields and reduced profits are not uncommon during the first year or two of the transition period. Nonetheless, with some careful planning and understanding of the process, adopting sustainable farming practices can meet with success.

Principles of Sustainable Practices

A few guiding principles can go a long way toward increasing the ecological and economic sustainability of a farm. Some of these to keep in mind are:

- Recycling materials on the farm;
- Using renewable sources of energy;
- Reducing off-farm inputs including synthetic chemicals;
- Using naturally occurring materials;
- *Managing* instead of controlling pests and weeds;
- Reestablishing natural biological relationships with the farm setting;
- Farming within the physical limitations of the farm;
- Adapting plant and animal species to the farm rather than vice versa;
- Valuing the overall health of the farm ecosystem rather than a particular crop;
- Conserving soil, water, energy, and biological resources;
- Integrating the idea of long term sustainability into the design of the system.

Transition Process

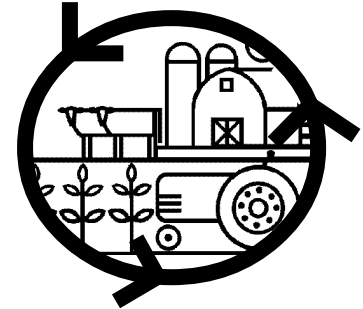
Three stages of transition can serve as an outline of the steps farmers can take as they make the transition from conventional to sustainable practices (Hill 1985).

Stage I.

Increase efficiency to reduce use of costly inputs. Fewer inputs will be needed and adverse impacts will be reduced if inputs are used more efficiently. Examples include monitoring pests for better management, intercropping (see fact sheet #531), and arranging crop patterns and densities for maximum production.

Stage II.

Substitute with alternative inputs and farming practices. Once you are using inputs efficiently, you can begin to replace resource-intensive and environmentally damaging inputs and practices with environmentally sound alternatives. Examples of such alternatives includes organic and biological pest control, composting, and biological control of weeds.



"Organic" versus "Sustainable"

The term "organic" is officially defined by the National Organic Standards Board.

"Organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony.... The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people."
—April 1995, the National Organic Standards Board, Orlando, Florida

The term "sustainable" is much less clearly defined; however, it is widely agreed that a sustainable farm is sustainable ecologically, economically, and socially. Sustainability is perhaps best thought of as an ideal to reach for rather than an end to obtain and organic agriculture as a method for achieving such a goal.

Regardless of which term you prefer, behind both is the intention of farming ecologically.

Stage III.

Redesign the farm system to function on the basis of ecological processes. By designing the farm based on ecological processes, problems are prevented rather than solved. An example is diversification of the farm using rotations, intercropping, and agroforestry (see fact sheet #530 *Diversity on the Farm*).

The transition to Stages I and II is reached relatively quickly. The transition to Stage III is ongoing. Research that will help with Stage III is still developing.

How long?

Of course, no one set of instructions or recipes can lead to a more sustainable farm. The transition time varies greatly depending on the type of crops farmed, the ecological conditions of the area, and the history of management and input use. The time frame can be as short as three years for annual crops and five years or longer for perennial crops and animal systems.

Evaluation

Effective management depends on clear goal-setting and effective decision making. The ability to evaluate progress and adjust plans accordingly is key to making the transition to more sustainable agriculture successfully. In other words, the transition process means planning, monitoring, controlling, and replanning at all stages. Some of the activities of the evaluation process include:

- Monitoring changes over time;
- Observing yield changes in response to different practices, inputs, designs, and management;
- Noticing how energy use, labor, and profits change over time;
- Identifying key indicators of sustainability and monitoring them over time.

Resources

Talk to others. Get involved with local organic farming groups, attend conferences whenever you can, and read, read, read.

Organizations

The Organic Farmer's Association Council (OFAC)

Contact: Blue Heron Farm, 1219 E. Sauk Road, Concrete, WA 98237; (206) 853-8449.

OFAC is a national network of organic farmers' associations. Its mission is to expand opportunity for organic farmers, to build networks of support and to help agriculture continue to develop with fidelity to the original spirit of the organic farming movement.

Organic Farming Research Foundation

P.O. Box 440, Santa Cruz, CA 95061; (831) 426-6606; email: research@ofrf.org; web: <http://www.ofrf.org>.

Organic Certification

The Organic Food Program of the Washington State Department of Agriculture is the organic certification agency in this state. Funded entirely by application fees, it is responsible for inspecting farms annually to ensure "1) there have been no applications of synthetic fertilizers or synthetic pesticides for at least three years prior to harvest, and 2) there is a soil-building program in place that provides for healthy soil and healthy plants."

For information contact:

WSDA
Food Safety and Animal Health Division
Organic Food Program
PO Box 42560, Olympia, WA 98504-2560
(360) 902-1877

Oregon Tilth

1860 Hawthorne Ave. NE, Suite 200, Salem, OR 97303; (503) 378-0690; email: organic@tilth.org; web: <http://www.tilth.org/>.

Transition Document and *In Good Tilth* Newsletter

Seattle Tilth Association

4649 Sunnyside Avenue North, Room 1, Seattle, WA 98103; (206)633-0451; email: tilth@speakeasy.org; web: <http://www.speakeasy.org/~tilth/>.

Vashon Island Growers Association

(A chapter of Washington Tilth)
11909 SW Cove Rd, Vashon Island, WA 98070; (206)567-4015.

Washington Tilth Producers

P.O. Box 85056, Seattle, WA 98145-1056; (800) 731-1143.

Washington Tilth fosters and promotes sustainable and ecologically sound agriculture in the interest of human and environmental health and social equity. Tilth Producers, a chapter of Washington Tilth Association, is the organic and sustainable farm organization of Washington State. Tilth Producers publishes a farm directory and a quarterly newsletter, and sponsors an annual education conference.

WSU Center for Sustaining Agriculture and Natural Resources (CSANR)

411 Hulbert Hall, P.O. Box 646230, Washington State University, Pullman, WA 99164-6230, (509) 335-2885; email: csanr@wsu.edu; web: <http://csanr.wsu.edu/>.

The purpose of the Center is to further the understanding and application of sustainability in agriculture, natural resources, and communities through education and applied research. The Center acts as a facilitator to bring together interdisciplinary teams, both within WSU and in partnership with other organizations. The Center provides educa-

tion on emerging issues through conferences and workshops, on-farm testing and applied research, informational materials, a web site, satellite broadcasts, resource library, and personal consultation.

Sustainable Agriculture Network (SAN)

Rm. 304, National Agricultural Library, 10301 Baltimore Ave., Beltsville, MD 20705-2351; (301) 504-6425;

email: san@nal.usda.gov; web: <http://www.sare.org/san/>.

SAN is the communications and outreach arm of the Sustainable Agriculture Research and Education (SARE) program. SARE is a U.S. Department of Agriculture-funded initiative that sponsors competitive grants for sustainable agriculture research and education in a regional process nationwide. SAN is dedicated to the exchange of scientific and practical information on sustainable agriculture systems using a variety of printed and electronic communications tools.

Sustainable Agriculture Research and Education (SARE)

Jill S. Auburn, SARE Director, USDA, Room 3868 South Bldg., Ag Box 2223, Washington, D.C. 20250-2223;

(202) 720-5203; email: jauburn@reeusda.gov;

web: <http://www.sare.org/>.

SARE works to increase knowledge about — and help farmers and ranchers adopt — practices that are economically viable, environmentally sound and socially responsible. To advance such knowledge nationwide, SARE administers a competitive grants program first funded by Congress in 1988.

Publications

Alternative Farming Systems Information Center (AFSIC).

“Transition Toward a Sustainable Agriculture” *Special Reference Briefs* no. SRB 91-04; National Agricultural Library, Room 304, Beltsville, MD 20705-2351; (301) 504-6559.

Granatstein, D. *Reshaping the Bottom Line*. Land Stewardship Project, 2200 4th St., White Bear Lake, MN 55110, (651) 653-0618.

Kirschenmann, F. *Switching to a Sustainable System*. Northern Plains Sustainable Agriculture Society (NPSAS), Box 36, Maida, ND 58255; (701) 256-2424.

Levins, D. 1996. *Monitoring Sustainable Agriculture with Conventional Financial Data*, Land Stewardship Project. Send \$7 (price includes postage) to: LSP, 2200 4th St., White Bear Lake, MN 55110.

The Monitoring Tool Box. Land Stewardship Project, PO Box 130, Lewiston, MN 55952. For information on bulk orders, call (507) 523-3366.

The *Monitoring Tool Box*, along with its companion video, *Close to the Ground*, is for farmers interested in learning easy-to-use techniques for monitoring the impact of management decisions on their land, finances and family.

Internet Resources

Alternative Farming Systems Information Center

NAL, ARS, USDA, 10301 Baltimore Ave., Room 304 Beltsville, MD 20705-2351; (301) 504-6559; email: afsic@nal.usda.gov; web: <http://www.nal.usda.gov/afsic/>.

The Alternative Farming Systems Information Center (AFSIC) is one of several topic-oriented information centers at the National Agricultural Library (NAL).

Sustainable Farming Connection

<http://metalab.unc.edu/farming-connection/index.html>

Resources for increasing profits while building healthy soils and protecting the environment. AFSIC specializes in locating and accessing information related to alternative cropping systems including sustainable, organic, low-input, biodynamic, and regenerative agriculture. AFSIC also focuses on alternative crops, new uses for traditional crops, and crops grown for industrial production.

Sources

Gliessman, S. 1998. *Agroecology: Ecological Processes in Sustainable Agriculture*. Sleeping Bear Press, Chelsea, MI.

Hall, B. and G. Kuepper. 1997. *Making the Transition to Sustainable Farming*. [Appropriate Technology Transfer for Rural Areas](#) (ATTRA) P.O. Box 3657, Fayetteville, AR 72702; (800) 346-9140.

Hill, S. 1985. “Redesigning the Food System for Sustainability.” *Alternatives*. 12:32-36.

Tant, C., J. P. Gates, and J. MacLean. 1992. *Adopting Sustainable Alternatives*. AFSIC Notes no. 1 Alternative Farming Systems Information Center, Information Centers Branch, National Agricultural Library, Agricultural Research Service, US Department of Agriculture, Beltsville, Maryland 20705-2351.

**Alternate formats available upon request.
206-205-3100 (TTY 711)**

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