September 1997

Center for Sustainable Agricultural Systems Newsletter, September/October 1997

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Linking Ecology and Agriculture to Increase Sustainability

Natural ecosystems supply many valuable services and products to humans, for example, clean air, clean water, and biodiversity as well as a place to grow crops and livestock. As natural systems, they do not provide agricultural commodities of the types and amounts needed by humans, so we have changed many of them into agroecosystems to maximize production of food and fiber.

What is it about an ecosystem that lets it run year after year using only solar energy without degrading the resource base, while farms and ranches require high fossil energy inputs and suffer from soil erosion and water contamination? This question was explored at three workshops co-sponsored by the North Central Sustainable Agriculture Training Program (NCSATP). Linking People, Purpose, and Place: An Ecological Approach to Agriculturewas held in Wooster, Ohio; Manhattan, Kansas; and Morris, Minnesota. The purpose was to demonstrate how an understanding of ecological principles can help us design farms that continue to provide commodities while retaining some of the beneficial processes of natural systems. Because agroecosystems include people, another goal was to explore the economy, infrastructure, and social organization in each place.
The first step toward identifying useful ecological principles is to describe the structure and function of pre-settlement ecosystems within a particular region. Introductions at the workshops gave an overview of the natural ecosystems in Ohio, Kansas, and Minnesota and of the agroecosystems that have taken their place.

In Kansas, Bonnie Lynn-Sherow, an environmental historian, emphasized the importance of human's role in nature by explaining the five roles the Konza Prairie Research Natural Area (KPRNA) has played for Native Americans, farmers, ranchers, scientists, and recreationists. KPRNA was established to provide an outdoor laboratory for the study of ecological processes in a tallgrass prairie. We saw firsthand the differences in vegetation caused by cattle or bison grazing and fire sequences. The next day we compared the native ecosystem with a cattle ranch agroecosystem. The Hubbard family runs almost 2,000 head of

steers and cow-calf pairs on 6,000 acres. As with KPRNA, they also use rotational grazing and fire as management tools.

Agroecology was another central topic. Richard Harwood and Richard Olson described how understanding the ecology of a place can lead to practices that are more profitable, more energy and nutrient efficient, and less environmentally disruptive. To effectively manage the biology of agricultural systems, we must understand:

- the relationship between the physical environment and key ecosystem processes, such asnutrient cycling, water use, and soil biology;
- which processes can be directly managed and which cannot, such as carbon turnover versus photosynthesis, and how managing the processes affects productivity;
- the importance of plant diversity and the amount and duration of plant rooting;
- the concepts of habitat, both within the landscape and in the soil.

Evaluating soil quality was one popular activity at the workshops. Using a mini version of the USDA-ARS soil test kit, participants measured infiltration rates, soil nitrate-nitrogen, organic matter, and depth to compact soil strata. In Minnesota, they sampled soils in CRP plots and tilled plots of corn or soybeans. Many embraced the hands-on approach as a way to quickly learn how cultivation practices affect soil structure.

Indoor sessions, with topics on weed management and ecological principles of grazing, complemented the extensive farm visits. Farmers and ranchers described how they matched their production systems with weather patterns, soil, vegetation, and markets. For example, the Hartzler family owns and operates five dairy farms that produce milk for the family-owned processing plant and retail store. Joe and Jean Hartzler farm 125 acres with intensive grazing on 35 acres. Their new retail dairy was the first one built in Ohio in 30 years. After the field tour, we visited the processing plant where milk is pasteurized, but not homogenized, and bottled in glass containers. Participants sampled 18 of the 30 available flavors of ice cream!

One of the guiding principles of NCSATP is that training must be inclusive, both in terms of trainers and learners. This year our audience background expanded to include instructors from private colleges, college students, a scientist with a large argochemical company, and representatives from the National Agroforestry Center.

According to the evaluations, participants indicated they would use ecological principles in helping clients design farming systems and consider the social implications. One Extension educator wrote, "I always felt a connection to natural resources, but my path seemed to put me in ag and crops. Now, I see that it is

feasible to combine them without losing respect and profitability. It will be a goal to try and bring this information to my county."

Submitted by Heidi Carter, Richard Olson, Charles Francis

The State of Rural America: We Can Choose Our Future

Chuck Hassebrook, Center for Rural Affairs*

The family farm and rural decline that we see around us are not inevitable. They are the result of decisions made by people, that can be reversed by people — with the right combination of community initiative, passion, citizen involvement, and perseverance.

We are facing formidable challenges in realizing the long-held values of rural America — the belief that community matters; that hard work deserves a fair reward; that wealth and power should be widely distributed; that ownership and control should belong to those who work the land and operate businesses; and that we are all responsible to our neighbors and future generations to be careful stewards of the environment.

We're told by experts that family farms can't compete and rural communities can't survive. They say we can't have economic opportunity without sacrificing environmental quality and accepting growing inequality and concentration of wealth and power. In essence, they say we have no choice about our future. That is simply not true. It will only become true if we resign ourselves to it! Unquestionably, we are in the midst of great economic concentration that is exacting a toll. But it need not be permanent. We can reverse the family farm decline and economic concentration, but we must see our work not as saving family farms and rural communities as we have known them, but as rebuilding them for the future.

We must start now to shape the next wave of change in rural America, and usher in a new generation of family farms and small businesses to ensure that one generation into the future, people will be asking not whether family farms can survive, but whether the plodding corporate Goliaths can compete with lean, well managed, socially responsible small enterprise. We can focus our vision and build on the strengths of entrepreneurship, citizenship, and civic commitment. Key strategies include:

Foster small scale entrepreneurship on and off the farm with capital, education, and community support. Over half the nation's net new jobs come from small

enterprises with five or fewer employees. We must nurture their establishment by providing capital, business training, and education.

Alter the direction of change in agriculture technology through new research initiatives. Too much agricultural research has focused on finding ways for farmers to spend more money to produce on a large scale. If there is to be a future for family farms, we must instead develop systems that enable farmers to use more of their management and skills to reduce the need for capital expenditures and to produce products of higher value. Only then will farmers receive a larger share of the consumer dollar for what they do to produce food. USDA, the land grant colleges, and other public institutions control almost half of all agriculture research. We must hold them accountable to serve the public good and partner with family farmers and rural communities in research and education.

Establish new markets that reward stewardship and support family farms. Commodity markets are biased against family size farms, but family farmers who practice sustainable agriculture have some potential offsetting advantages. Over half of American consumers are willing to pay some premium for food produced in a socially and environmentally responsible manner. Therefore, we must build new marketing institutions that reward environmental stewardship.

Reform public policy to support small enterprise and reward stewardship. Much in public policy is biased toward bigness. We need to reverse that bias at the state and federal levels, in both farm and rural development policy. Conservation provisions of the 1996 farm bill demonstrate that committed citizens with an idealistic vision can change public policy to support environmental stewardship. We must reform policy to support opportunity, fairness, and small enterprise.

The question we face today is whether we will pass to future generations an economic system that provides ordinary people that same opportunity to own and control the land and businesses they work, improve their lives, build communities, and define their own destinies. Or will we pass to the next generation a system more akin to the feudel system our ancestors left behind, wherein a few own and control everything and all others work for them? There is not much question that most rural people would choose the former. Our challenge is to come together to exercise that choice.

*Source: Article in Center for Rural Affairs Newsletter, September 1997, containing remarks by Chuck Hassebrook at the CRA annual meeting in August.

Condensed by Charles Francis

California Salad and Australian Emu in Nebraska?

What do multi-variety green salad mix and emu steaks have in common? This unique association was the focus of a recent field day on "Growing and Marketing Specialty Crops" that brought over 50 people to view some of Nebraska's more unique commercial enterprises. Although unlikely to replace thousands of acres of corn and soybeans, these alternative enterprises do represent a creative approach to nurturing and meeting new markets. As people travel and read, they become aware of new foods and diversified adventures in living -- this is an opportunity for agriculture! We had a chance to see these enterprises on an August 9 tour.

Kevin and Charuth Loth moved to Lincoln three years ago after an extended experience in diversified California agriculture. One of the unique products they found popular there was a green salad mix, one that included a wide range of leafy vegetables tossed together with what most of us recognize as traditional leaf lettuce. As this product began to arrive in Nebraska, packaged in plastic and at least one week old when it reached the consumer, the Loths decided there was a market for fresh salad mix from a local source. "This has been our signature product," Kevin said at the recent field day. He added, "The price may seem high and some weeks the available components make the mix a little spicy, but you can add this to another source of lettuce or eat it straight for a special culinary experience." In their well-planned and carefully kept four acres, an irrigation system and planned rotation is slowly taking shape. "It's really a lot of work, with long days and too many things to do on some days. But seeing everyone here today, hearing their compliments, makes it seem more worthwhile," added Charuth. They also grow cucurbits, flowers, and heritage vegetables for farmers'markets in Lincoln and Omaha as well as for area restaurants.

A more exotic enterprise and hobby is one enjoyed by Phil and Janiece Goin of Hickman: Australian emus. Well adapted to both summer and winter extremes in weather, these foreign birds seem adjusted as they pace and run around several pens and field shelters on the Goin farm. Ready for slaughter after one year, and for breeding after four years, these exotic critters provide meat, oil, skins, eggshells, breeding stock, and continuous entertainment for the Goins and their frequent visitors. You need to try emu steaks, summer sausage, or "dogs" to appreciate the unique flavor of the meat. One special product is the oil, about 5 liters from a mature adult, that brings $200-300/gallon on today's market and is used for a wide range of medicinal remedies. Any problems with diseases or predators? "The veterinarian told us they were perfectly healthy here, and I'd like to see a coyote get into the pen. I think they would defend themselves very well, based on the kicks they give me once in a while," Phil said. The Goins currently have over 100 emus, and sell meat, oil, and eggshells at the farmers' market.

Should you raise salad greens or emus? Probably not. But should you consider creative alternatives to current commodity crops? These Nebraskans are showing us how innovative ideas and thoughtful promotion can broaden our agricultural

product base and do well in an increasingly sophisticated marketplace. The key is to find a unique niche, to provide a consistent and quality product, and to enjoy working with the public. These adventuresome people are showing that it can be done.

The tour was co-sponsored by the Nebraska Sustainable Agriculture Society, Lincoln Farmers Market, Lancaster County Cooperative Extension, and CSAS.

Submitted by Chuck Francis and Larry Cutforth

Did You Know...

The July 21, 1997 edition of the *Los Angeles Times* carried an article about sustainable agriculture entering the mainstream, stating that the movement now includes approximately 5% of U.S. farmers who use sustainable practices.

The N*ew York Times* bought a share of Threshold Farm Community Supported Agriculture and writes periodically about the CSA project.

In June 1997, Swissair announced that it was introducing organically grown products in all classes on flights departing from Switzerland. By the year 2000, Swissair's goal is to ensure that 90% of the products used to prepare meals are organically grown.

Presenting congratulations on the 25th anniversary of the International Federation of Organic Agriculture Movemements (IFOAM), director of Greenpeace International Dr. Thilo Bode called organic farming one of the world's most sophisticated and serious visions of sustainability.

Coming Events

Contact CSAS office for more information.

1997

- **Nov. 7 —** 5th Annual Small Farm Trade Show & Conference, Columbia, MO

1998

- **Jan. 9-10 —** Great Plains Vegetable Conference, St. Joseph, MO

- **Jan. 22-25 —** Southern SAWG Annual Conference & Trade Show, Memphis, TN
- **Jan. 30 —** 17th Annual Organic Conference and Eco-Products Trade Show, Ontario, Canada http://www.gks.com/OrgConf/
- **Feb. 10-12 —** Managing Manure in Harmony with the Environment and the Society," Ames, IA
- **Feb. 26-28 —** No. American Farmers' Direct Marketing Assoc. Conference, Victoria, BC http://www.agf.gov.bc.ca/agric/nafdmc/dfmchome.htm

  Mar. 5-6 — National SARE Conference - Building on a Decade of Sustainable Agriculture Research & Education: Sharing Experiences to Improve Our Agriculture, Austin, TX http://www.ces.ncsu.edu/san/

Resources

Steel in the Field: A Farmer's Guide to Weed Control Tools. $18. New book describes in detail 37 tools and 17 accessories, and includes supplier contacts, tool price ranges, resource lists, clear illustrations and farmer narratives about integrating the tools into sustainable cropping systems. Addresses the four main concerns that farmers have about mechanical weed control: cost, effectiveness, dependability and soil impact. Book project was funded by the Sustainable Agriculture Network. Sustainable Agriculture Publications, Hills Building, U. of Vermont, Burlington, VT 05405-0082, 802-656-0471, msimpson@zoo.uvm.edu.

Source Book of Sustainable Agriculture. $12 (call 802-656-0471 or e-mail msimpson@zoo.uvm.edu for bulk discounts). Lists 559 resource materials covering the vast breadth of agriculture, from how to market sustainably grown vegetables to locating the latest sustainable research findings on the World Wide Web. Covers print, electronic and video resources and contact information to order them. Sustainable Agriculture Publications (see above).Part-time Farming, Small Farms, and Small-scale Farming in the United States; Direct Marketing and Related Topics; and Compost: Application and Use. Publications in the Quick Bibliography Series. USDA, National Agricultural Library, Alternative Farming Systems Information Center, Beltsville, MD 20705-2351, 301-504-6559, afsic@nal.usda.gov, http://www.nal.usda.gov/afsic.

Sustainable Agriculture Research and Education (SARE) Program 1997 Project Highlights. Free. Report describes SARE-funded projects that show management-intensive grazing is more profitable for producers and better for the environment. Several SARE grants are funding research in shifting from confinement-based livestock systems to raising cows, sheep and hogs on pastures offering a mix of grass and legumes. Also highlighted in the report are articles on Community Supported Agriculture, the benefits of pasturing hogs, and several other research and on-farms projects. Valerie Berton,

SARE Communications Specialist, 0322 Symons Hall, U. of Maryland, College Park, MD 20742, 301-405-5270, vberton@wam.umd.edu

Free-Range Poultry Production, Processing and Marketing. $39.50 + $4.50 s&h. Guidebook describes innovative way to raise pountry on range and market meat and eggs. Method differs from model used by Salatin in that chickens are not confined in pens, but range about 100 feet from their portable houses. Developed by producer with six years of free-range poultry experience, with the help of a SARE grant. Back Forty Books, 26328 Locust Grove Rd, Creola, OH 45622.

Biodiversity and Human Health, 1997. $29.95 + shipping. Presents compilation of papers which analyze human health consequences of biodiversity loss from variety of perspectives, including agroecology, public health, biology, epidemiology, demography and pharmacology. Explores causes of biodiversity loss, effects of its loss on agroecosystems, and significance of biodiversity-derived medicines and biodiversity-dependent health systems. Discusses threats from pesticides and role of agricultural diversity in sustainable agriculture. Island Press, 24850 East Lane, PO Box 7, Covelo, CA 95428, 707-983- 6432, e-mail: ipwest@igc.org.

The National Agroforestry Center has several informational/educational materials, including newsletters, technical note series, brochures, booklets, and videos. Most are free or available for loan. You can request an order form listing what is available from: Clover Shelton, NAC/USDA Forest Service/NRCS, East Campus - UNL, Lincoln, NE 68583-0822, 402-437-5712.

Environmental Health Threats to Children, 1996. Free. U.S. EPA report summarizes threats to children's health from environmental toxins, including pesticides, lead and drinking water contaminants. Describes EPA's agenda for protecting children and recommends actions, including in areas of research, national policy and education. National Center for Environmental Publications and Information, PO Box 42419, Cincinnati, OH 45242, 800-490-9198, or 513- 489-8190.

Making World Agriculture More Sustainable. $30 + s&h. Edited by J. Patrick Madden and Scott G. Chaplowe. World Sustainable Agriculture Association embarked upon a project to highlight notable organizations promoting sustainable agriculture throughout the world. The 650-page book contains more than 60 organization profiles, ranging from international NGOs to grassroots organizations, describe their efforts to make agriculture more sustainable. Concludes with a directory of 141 organizations whose work supports the cause of sustainable agriculture, a Glossary of key terms, and a detailed Subject Index.WSAA Publications, 8554 Melrose Avenue, West Hollywood, CA 90069, 310-657-7202, email: WSAA@Compuserve.Com.

What's In A Name: Eco-Labeling In The Global Food System. Paper presented at the Joint Meetings of Agriculture, Food, and Human Values Society and the Association for the Study of Food and Society, June 1997. By Elizabeth Barham, Department of Rural Sociology, Cornell University. Examines the emerging clashes between corporations and

eco-labeling proponents as reflective of a larger struggle to moderate the effects of global market liberalization on consumers, producers and environment. Copies available free via e-mail by contacting meb6@cornell.edu. Hard copies available for $7.50 each by writing Elizabeth Barham, 133 Warren Hall, Cornell University, Ithaca, NY 14853.

Midwest Biological Control News. $12/yr hard copy, free online. Monthly newsletter dedicated to providing information on the use of beneficial organisms for controlling insect and mite pests of the farm, garden, and home. Articles of valid biological control information are welcome, but final selection and editing are the responsibility of the editorial staff. Web page has many links to other biological control sites. Dept. of Entomology, U. of Wisconsin, Madison, WI 53706, 608- 262-9914 or 262-9959, smahr@entomology.wisc.edu, http://www.wisc.edu/entomology/mbcn/mbcn.html.

IPMnet NEWS is a free electronic Integrated Pest Management information source focused on economic, environmentally-attuned approaches to managing weeds, plant diseases, insects, nematodes, and vertebrate pests. Now in its fourth year, this service is designed to provide balanced, worldwide "news-you-can-use" to those concerned with IPM development, research, implementation, adoption, policy, and impact. It is sponsored by the not-for-profit Consortium for International Crop Protection comprised of 10 U.S. land grant universities, the University of Puerto Rico, and the USDA. The monthly newsletter can be subscribed to for automatic e-mailing, or you can access it and other information at the Web page:
http://ipm_www.ncsu.edu/cicp/IPMnet_NEWS/news.html

Nebraska Vine Lines. Free. Edited by Paul Read, professor of horticulture at UNL. Contains news of people and developments in the grape/wine industry in Nebraska. Plans are to publish monthly. Dept. of Horticulture, U. of Nebraska, Lincoln, NE 68583-0724, 402-472-2854.

Emerging Markets for Family Farms: Opportunities to Prosper Through Social and Environmental Responsibility. $7. Report describes strategies for farmers to market high-value products. Center for Rural Affairs, PO Box 406, Walthill, NE 68067-0406, 402-846-5428.

Tough to Swallow: How Pesticide Companies Profit by Poisoning America's Tap Water. $20. Presents findings of study on herbicides in tap water in midwestern states. Environmental Working Group, 1718 Connecticut Ave., NW, Suite 600, Washington, DC 20009, 202-667-6982, info@ewg.org, http://www.ewg.org.

Watershed Currents. Free via e-mail. Contains news, events and resources about watershed organizing. Send e-mail to majordomo@igc.apc.org. Leave subject blank. In body of message type subscribe water-net. Send questions to mmuller@iatp.org.

Small Farm Digest. Free. Merger of former Small Scale Agriculture Today and Small and Part Time Farms. Quarterly newsletter for small farm managers with updates on farm related trends and developments, reviews of recent publications, and announcements of

upcoming events. (If you were on the mailing list for the *Small Scale Agriculture Today* or *Small and Part Time Farms*, you will automatically get a copy of this.) Small Farm Digest, USDA-CSREES, Stop 2220, Washington, DC 20250, llewis@reeusda.gov.

SMALLFARM-MG listserve. Identifies small farm contacts, farmers, and others in the public and private sectors who are interested in strengthening the capacity of small- and mid-size farmers to improve their income levels through a systems approach to addressing the needs of the small farm community. To subscribe, send msg to: majordomo@reeusda.gov. Leave subject blank. In body type: subscribe smallfarm-mg.

Conference Proceedings: Agricultural Production and Nutrition. $18 prepaid. Collection of 21 papers from international conference held in Boston in March 1997, edited by William Lockeretz. Explores all facets of how nutritional value of food is affected by the way it was produced. Covers biological and chemical aspects of nutrition and food quality, as well as consumers' perceptions, marketing channels, and economic considerations. Several papers discuss implications for national and international food and nutrition strategies. Agriculture & Nutrition Conference, School of Nutrition Science and Policy, Tufts University, Medford, MA 02155, WLockeretz@infonet.tufts.edu.

1997 National Organic Directory. $44.95 + $6 s&h. Annually updated "yellow pages" of the organic industry. Includes 1,000+ listings of farmers, wholesalers, farm suppliers, support businesses, certification groups and resource groups. Organic commodities bought and sold are extensively indexed, and explanations of state and federal organic laws are provided. Community Alliance with Family Farmers, PO Box 363, Davis, CA 95617, 1-800-852-3832, nod@caff.org, http://www.caff.org.

Appropriate Technology Transfer for Rural Areas program (ATTRA) invites you to join in celebrating its 10th Anniversary by visiting its new web site at http://www.attra.org.

Labels: Linking Consumers and Producers. Free. Monthly electronic newsletter from the Institute for Agriculture and Trade Policy (IATP). Provides news, events and resources related to the labeling of products for environmental, social and regional sustainability. To subscribe, send e-mail to: majordomo@igc.apc.org. Leave subject blank. In body type: subscribe label-news. For help contact Kathryn Clements, kclements@iatp.org. Also available, along with IATP news bulletins, at http://www.sustain.org/bulletins.

Seeking K-16 Curriculum Volunteers

The Center for Rural Affairs is developing a National Sustainable Agriculture Curriculum Guide for grades K-16, and is seeking volunteers from across the country to serve on the task force of teachers helping to develop the guide and/or provide materials. Contact Martin Kleinschmit, 402-254-6893.

IMPACT Project Deadlines

The Nebraska Ag IMPACT Project is accepting applications for new groups and projects for 1998. Technical and financial assistance are available to groups of farmers, ranchers, or community members with projects that address farm productivity and profitability, resource conservation, environmental and health protection, and support of rural communities. Application deadlines are November 7, 1997 and February 27, 1998. Contact IMPACT offices at Hartington (402-254-2289) or Sidney (308-254-3918) for application materials or information.

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