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Center for Sustainable Agricultural Systems Newsletter

September-October 1996

Restoring Productivity, Profit, and Ecological Integrity in Chile

In September I was invited to participate in a regional workshop on land use planning and sustainable agriculture in the Southern Cone countries. Hillsides in some areas near the coast in Chile have been planted to wheat for more than 300 years, and harvests extracted with no addition of nutrients. Tilled by subsistence farmers often working with oxen and a single bottom plow, much of this land is in a wheat-fallow system that yields as little as 1-1.5 tons/ha (15-22 bu/a) of winter wheat every two years. When the tour leaders told me we would see farmers tilling the B-horizon, I was sure that it would prove to be an exaggeration. It did not take long to see that they were right.

Although level fields nearby are producing world-class wine and table grapes, kiwi, and a range of stone fruits and apples for export, using drip irrigation and other technologies that rival California in their innovation and efficiency, limited resource farmers continue to eke out an existence on highly degraded lands. The only viable option from an ecological point of view appears to be consolidation of small holdings through purchase by investors and planting of trees for lumber and pulpwood, an activity subsidized at a rate of 75% by the government. The result is monoculture pine or eucalyptus forests that are clear cut after 20 to 30 years, causing yet another cycle of soil erosion and social erosion. Although there is some conservation of soil, the consequences of this well-meaning strategy include unemployment, continued migration to cities, and a widening gap between those who own the land and those who need food and a better life.

Increasing the productive capacity and profit from highly eroded farms in the coastal hills and central valley of Chile is one goal of a new cooperative project launched after a recent workshop convened by INIA (National Institute for Agricultural and Livestock Research) in Cauquenes at a branch research station. Attended by specialists in agriculture and rural development from all six countries in the Southern Cone, this conference had the goal of preparing a comprehensive research project for the region. The goals are to restore both crop and livestock productivity as well as rehabilitate highly eroded lands and recreate the ecological integrity of agroecosystems on which people depend for food and income.

Specific pilot projects in each country will bring interdisciplinary teams from appropriate government agencies, universities, and the private sector together to work side by side with farmers to seek location-specific solutions to problems of

soil erosion. Applying the best available current technologies that are appropriate to small-scale farmers in these pilot areas, the teams plan to involve neighbors and the community in long-term planning for integrated systems that will help restore the ecosystem while producing food and income for families.

In the pilot program near the coast in Chile, one option will be to concentrate wheat production on the best fields using needed N and P applications along with crop rotations to increase yields on a limited area. Other areas on the farm will be used for intensive, high-value crops such as grapes and tree fruits, using irrigation tape, minimum tillage, and biological control of pests. The most eroded parts of the farm will be planted to permanent pastures and a diverse mixture of trees to allow the soil to regenerate and to prevent further erosion. Planning will be conducted in close communication with the farmers in the pilot zone, and research will be carried out as a joint venture by cooperators in the field and the team of investigators. This pilot project is specific to the coastal hills in Chile. One or more sites will be chosen in the five other countries where soil erosion is a major problem and location-specific solutions will be tested and demonstrated.

This project is one of the most attractive of current efforts in Latin America in terms of its agroecosystem focus and its goal of restoring both productivity and ecological integrity to the landscape. It is part of a comprehensive program by PROCISUR (Cooperative Program for Technological Agricultural and Livestock Development in the Southern Cone) with headquarters in Montevideo, Uruguay. This subproject is a comprehensive agricultural program of IICA (Interamerican Institute of Agricultural Sciences) that is financed by the Interamerican Development Bank, individual governments, and other international donors. The group is currently seeking funding sources for this ambitious project.

Submitted by Chuck Francis

Specialty Food Products Field Day a Success

On August 24 about 40 people participated in the first field day that focused on farmers' markets and other forms of direct marketing locally grown products. After cruising the Lincoln Farmers' Market (LFM), the manager Billene Nemec welcomed the group and told them they were helping to celebrate the first decade of the LFM. The Lancaster County Extension Office hosted the second segment of the field day where participants heard from producers Tom Tomas and Keith Lutnes, and UNL representatives Alice Henneman, Laurie Hodges, and Jill Gifford. The panel, moderated by Lancaster County Extension Unit Leader Gary Bergman, described what is involved in direct marketing such as common problems and how to avoid them, safety requirements for processed food, organic certification, and what resources are available from UNL and elsewhere to assist direct marketers of food products.

After a lunch supplemented by wonderful donations from many LFM vendors (including sweet corn prepared to perfection by Ward Shires and Wanda

Leonard), the group visited five farms of LFM vendors who shared their experiences (and treats) with participants. Demonstrations and commentaries covered such topics as drip irrigation, mulching with plastic film, regulation of food labels and safe food laws. As CSAS Advisory Committee member Mort Stelling put it, “We observed the ingenuity and unquenchable spirit of the small producers themselves.” Thanks to Bob and Judy Slama of Crete, Peggy and Gene Eggert and Diane McCown of Martell, Gene and Dot Langdale of Firth, and Jerry Meyer of Beatrice for being great tour hosts.

The event was sponsored by CSAS, Nebraska Cooperative Extension, Lincoln Farmers’ Market, Nebraska Sustainable Agriculture Society, and Specialty Growers/Organic Crop Improvement Association - Nebraska Chapter 3. We plan to make this an annual event.

While parents visited with Lincoln Farmers’ Market vendors, children enjoyed creating potato heads and seed art at the table hosted by Cris Carusi, director of the Nebraska Sustainable Agriculture Society.

Jerry Meyer tells consumers about the organic herbs and produce he grows in Beatrice.

At his farm Jerry goes into greater depth as he shares his production and marketing knowledge and experience with participants who went on the afternoon tour.

Minigrants Awarded for Sustainable Ag Education

For the second year, the North Central Sustainable Agriculture Training Program (NCSATP) has awarded minigrants to support regional training activities. These minigrants supply funds for out-of-state speakers and special topic tours. The goals are to:

- stimulate the exchange of information and materials across states;
- test alternative learning methods;
- give educators on-farm experience with various systems;
- provide in-depth training on sustainable agriculture issues.

NCSATP has sponsored six speakers and three tours to date. For example, the Michigan Agricultural Stewardship Association invited John Ikerd, University of Missouri, and Bob Leader, Indiana Farmers Union, to the Agricultural Mega Conference in Lansing. Ikerd discussed moving beyond defining sustainable agriculture to developing more environmentally sound, economically viable, and socially responsible farming systems. Leader described how he gets more money for his soybeans by processing the crop on his farm. He turns out a variety of products including fish food and specialty oils.

Also in Michigan, the Extension Service and the Michigan Integrated Food & Farming Systems Project hosted a field day at the Guthrie farm near Delton. Tom and Nancy Guthrie along with other agriculturists and community leaders are developing a model stewardship plan to protect water quality and natural resources. Speakers from Ontario and New York addressed whole farm planning, and participants toured demonstration sites including nitrogen test plots. The North Dakota and South Dakota task force designed two tours for Extension educators and specialists and Natural Resources Conservation Service (NRCS) personnel. The tours supplemented classroom training in sustainable agriculture, strengthened the systems approach to production agriculture, and gave educators the opportunity to listen to farmers' philosophies and management techniques. Participants visited a no-till research farm and an intensive rotational grazing operation using the Holistic Resource Management model. Back in the classroom, Dennis Johnson, University of Minnesota, detailed various learning methods to implement grazing and livestock confinement systems. Among the techniques discussed were the pasture walk, learning circles, and networking. Sandy Wyman, NRCS Montana regional office, tackled the issue of grazing riparian and other environmentally sensitive areas. The topic elicits a wide variety of opinions regarding the best use of this potential resource. Evaluations of the speakers and tours as well as suggestions for future training activities will be shared throughout the North Central region. The funding source for the NCSATP and minigrants is the USDA SARE Program. For more information, call Heidi Carter at 402-472-0917.

Submitted by Heidi Carter

Glickman Lauds Farmers' Markets for Consumers and Farmers

On August 23, one day before the Lincoln Farmers' Market event, Agriculture Secretary Dan Glickman hosted a farmers' market at the USDA. He told the gathered farmers, area workers and other visitors that such local farmers' markets are a growing trend throughout the nation, and farmers can increase their income significantly by participating. As part of National Farmers' Market Week, Glickman released a new USDA survey which found that nearly a million consumers visit farmers' markets across the country each week and that direct marketing sales of fruits and vegetables total approximately \$1.1 billion annually. In addition, the number of farmers' markets has increased nearly 40% since 1994. "The growth in the number of farmers' markets across the nation illustrates the importance of the bridge between farmers and consumers," said Glickman. "Farmers — especially small and limited resource farmers — continue to look for new, innovative marketing opportunities to increase income and combat an ever increasing lack of competition in U.S. agriculture. Consumers, conscious of the nutritional benefits of fresh fruits and vegetables, also are supporting farmers' markets in record numbers."

The 1996 edition of the National Farmers' Market Directory, a state-by-state listing of nearly 2,500 farmers' markets across the country, may be accessed via the Internet at <http://www.usda.gov/ams/states.htm>.

Source: USDA press release, 8/23/96

Integrated **F**arm

Visitor Comments

Integrated crop/livestock production and research continue to draw visitors to the Agricultural Research and Development Center (ARDC). This past summer there have been numerous student visits and tours with farmers that included the Integrated Farm as part of their itinerary. The key features of the project that appear to attract attention are cropping system and agroforestry diversity, complementarity of crops and livestock, and conversion of dairy and feedlot manure to compost as part of the nutrient cycling strategy on the farm.

“In the future, I imagine many of the erodible hillsides in the corn belt will have strips and diversity like what is here at the ARDC,” observed a student intern from the Land Institute in Salina, Kansas. She had been learning about the contour strip cropping rotations east of the headquarters building, a series of three fields with large plots and different rotations of predominant crops for the region. The contour strips and minimum tillage reduce erosion to below the soil replacement value, and provide both spatial and temporal diversity within the field. Originally funded by a SARE grant, this project continues to be one of the most visible indications that research at the ARDC is not business as usual.

The intensive use of cool- and warm-season grasses, complemented by grazing residues and a short feedlot period, is one of the most compelling systems emerging from research conducted by animal scientists and agronomists at the ARDC. “This strategy seems to have the potential to reduce production costs for beef, keep the soil in place on erodible lands planted to pastures, solve most of the manure problem, and release some of our basic grain production for human food use and export,” said a local producer who toured several of the experiments. The system also results in leaner beef, an important product for today's consumer.

Research on grazing residues, effects of field windbreaks on winter gains, and implications of ridge till planting are among the activities of the Integrated Farm. Making compost to meet crop nutrient needs is one viable alternative to spreading manure directly from the feedlot or applying slurry from the dairy barns. A major effort to efficiently recycle nutrients back into production fields, coupled with carefully planned crop rotations, has provided a strategy to meet about 40% of the nitrogen needs and most of the other nutrients required for top yields at the ARDC. “Manure has become a problem for those of us who raise confined

cattle,” according to a Nebraska feedlot manager. “This approach to compost production and application gives us greater flexibility in time of application and helps to stabilize nutrients for use by crops in rotation.” The compost research includes several projects that evaluate the potential for replacing chemical fertilizers, interactions with cover crops and rotations, and long-term effect on soil quality. These comments from visitors confirm that the Integrated Farm is a valuable joint project of the CSAS, ARDC, and several cooperating departments. The project is in its fifth year.

Submitted by Chuck Francis

Did You Know...

Growing a day’s food for one adult takes about 1,700 gallons of water.

Satellite Programs on 1996 Farm Bill

Washington State University and several federal agencies are sponsoring a satellite series on the farm bill. Two scheduled for November are: Risk Is Not a Four-Letter Word (Nov. 1, 8:00-10:00 PT); Conservation Compliance and EQIP (Nov. 22, 8:00-9:30 PT). They will be aired on Telestar 401, ch. 17 C-Band. Another program, Wetland Provisions, will be scheduled at a later date. For more information contact Colette DePhelps at WSU, (509) 335-0183, dephelps@wsu.edu.

Did You Know...

According to Giving USA 1996, environment and wildlife organizations received an almost 13% raise in gifts from 1994 to 1995, and contributions to education institutions experienced an 8% growth.

Resources

Agroforestry Notes. Free. New series of peer-reviewed technical papers written for non-researchers. Topics fall into four categories: agroforestry principles; conservation agroforestry; production agroforestry; and special applications of agroforestry technologies. Issued periodically throughout the year. National Agroforestry Center, East Campus-UNL, Lincoln, NE 68583-0822.

1996 National Organic Directory. \$34.95 + \$6 s&h. More than 1,000 cross-listed references of commodities bought and sold, contact information of organic growers, wholesalers, suppliers and related businesses, and updated summary of state and federal organic laws. Community Alliance with Family Farmers, PO Box 464, Davis, CA 95617, 1-800-852-3832.

Organic '92: Proceedings of the Organic Farming Symposium. \$15. Compilation of 41 papers presented by farmers, researchers, educators and consultants in January 1992. Topics include crop, soil and pest management; cover crops; regulations; on-farm research; diversification, and more. Small Farm Center, U. of California, Davis, CA 95616-8699, 916-752-8136. Also, visit their web site: www.sfc.ucdavis.edu.

Our Global Environment: A Health Perspective (Fourth Edition, 1995). Anne Nadakavukaren. \$29.95. Provides broad overview of environmental issues in textbook form. Includes chapters about ozone depletion, global warming, water and air pollution, pesticides, food quality, food security and many other topics related to environmental degradation. Waveland Press Inc., PO Box 400, Prospect Heights, IL 60070, 847-634-0081, info@waveland.com.

Proceedings of 11th IFOAM International Scientific Conference held August 11-15, 1996 in Copenhagen, Denmark and attended by 1,000 delegates from 92 countries. Vol. 1: Fundamentals of Organic Agriculture. Vol. 2: New Research in Organic Agriculture. 125 DKK each. Request faxed order form by sending e-mail to: ifoam96@login.dknet.dk.

Summary proceedings of the North American Symposium of the Association for Farming Systems Research/Extension (AFSR/E), held on November 5-8, 1995 at Iowa State University. \$15 in the US (\$20 to Canada and Mexico, \$25 overseas). Contains summaries by each speaker or panel, the final program, and a mailing list (with e-mail addresses) of participants. Checks payable to NCRCRD should be sent to Julie Stewart, North Central Regional Center for Rural Development, 404 East Hall, I.S.U., Ames, Iowa 50011.

From Farm To Market. \$10/yr for 8 issues. Newsletter written by Dr. Laurie Hodges, UNL Vegetable Specialist, for commercial vegetable and fruit growers. Horticulture Department, UNL, PO Box 830724, Lincoln, NE 68583-0724, 402-472-8616, hort034@unlvm.unl.edu.

Did You Know...

The U.S. Department of Defense has committed to reduce its pesticide use by 50% by October 2000.

Did You Know...

As a tribute to the 10-year anniversary of Iowa's Groundwater Protection Act, the state has declared 1997 the "Year of Water."

Call for Papers on Ogallala Aquifer

The 1997 Nebraska Water Conference has issued a call for papers on the Great Plains Symposium: The Ogallala Aquifer, to be held in Lincoln, Nebraska March 10-12, 1997. One of the four sessions will be presentations on regional sustainability from the management perspectives of producers, manufacturers, food processors and government. Abstracts are due November 15. For more information contact Robert Kuzelka, (402) 472-7527, rkuzelka@unlinfo.unl.edu.

Did You Know...

The Institute for Agriculture and Trade Policy for Farm Aid says there are now two farmers over age 65 for every one farmer under 35.

Windbreaks Help Pepper Production

Laurie Hodges, UNL Vegetable Specialist, has been conducting research on the impact of windbreaks on peppers. In her August 23 newsletter (see Resources) she states: "We've harvested heavily for the past four weeks from the plots sheltered by a tree windbreak, with hardly anything ready in the plots unprotected from the wind. The differences in vegetative growth, leaf size, and fruit size, weight, and number are striking. Also the exposed peppers have moderately severe bacterial leaf spot, while the sheltered peppers have much less of this devastating disease." Dr. Hodges will have final yield data by late fall.

Number of Nation's Large Farms Increases

The number of America's large farms — those with sales of \$100,000 or more — grew sixfold in the past 25 years, increasing from 51,995 in 1969 to 333,865 in 1992, according to an Agricultural Brief (AB/96-1), released in early August by the Commerce Department's Census Bureau. During this same time span, the total number of farms declined from 2.7 million in 1969 to 1.9 million in 1992.

Coming Events

Contact CSAS office for more information:

1996

- Oct. 20-21
Groundwater Foundation Annual Water Festival Workshop, Nebraska City, NE
- Nov. 1-2
Profit from Diversity, Small Farm Trade Show & Seminars, Columbia, MO
- Nov. 3-8
American Society of Agronomy Annual Meeting, Indianapolis, IN
- Nov. 6-8
21st Century Solutions: New Uses for Ag Products, and Biomass Workshop,
Tulare, CA
- Nov. 6-11
American Society of Specialty Cut Flower Growers Annual Meeting, Denver, CO
- Nov. 8-10
6th Annual Urban-Rural Conference, East Troy, WI
- Nov. 11-16
14th International Symposium on Sustainable Farming Systems, Colombo, Sri
Lanka
- Nov. 13-15
Composting Council's Seventh Annual Conference, Arlington, VA
- Nov. 20-22
New Opportunities In Composting and Organics Recycling, Des Moines, IA
- Dec. 5-7
1996 Acres U.S.A. conference, St. Louis, MO

1997

- Mar. 19-21
International Conference on Ag Production and Nutrition, Boston, MA
- June 8-12/15-19
XVIII International Grassland Congress '97, Winnipeg, Manitoba/Saskatoon,
Saskatchewan
-

The Center for Sustainable Agricultural Systems bimonthly newsletter is currently available free in hard copy to U.S. addresses, and electronically via: SANET, PENPages, and the internal IANRNEWS. Current and back issues, along with other sustainable agriculture information is also available on the Internet:

<http://www.ianr.unl.edu/ianr/csas/>

For comments or questions, or to be added to the mailing list for hard copy, contact the editor at the masthead address, or e-mail csas001@unlvm.unl.edu.

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