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March-April 1993 CSAS Newsletter

The University of Nebraska-Lincoln Center for Sustainable Agricultural Systems is an interdisciplinary center formed in 1991 for the purpose of bringing together people and resources to promote an agriculture that is efficient, competitive, profitable, environmentally and socially sustainable for the indefinite future. This electronic version of the Center's bimonthly newsletter is published 10-14 days before those on our mailing list receive their hard copy. At this time there is no charge for being on our newsletter mailing list. To be added to the list, or for questions or comments, contact the newsletter editor, Pam Murray, Administrative Coordinator, Center for Sustainable Agricultural Systems, 221 Keim Hall, University of Nebraska-Lincoln, Lincoln, NE 68583-0949, phone - (402) 472-2056, fax - (402) 472-7904, email - CSAS001@UNLVM.EDU.

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NEW LOOK FOR THE NEWSLETTER

We have so much we want to share with you these days that we decided to go to a six-page newsletter. With the expanded format we have room for contributed brief articles. If you have an item you wish to share (e.g. brief book review, summary of event in which you participated, coming event), please send it to Pam Murray, CSAS Administrative Coordinator. Thanks to our secretary, Michele Strickler, for a great formatting job!

POLICY OPTIONS FOR 1995 FARM BILL

Snow and ice on the roads did not deter 40 people from reaching the Lower Platte NRD office in Wahoo to discuss options for the next farm bill. On February 6 Kris Thorp and Chuck Hassebrook of the Center for Rural Affairs led an active interchange on current commodity programs,

market development activities, and water quality impacts of programs.

Options favored by the group included:

- Targeting cuts in program payments--Closing payment limitation loopholes, capping the size of payments received by the largest farms, and establishing an environmental reserve program would all help to reduce acres in continuous corn.

- Establishing new environmental reserve--This could include supply management by giving higher payments to farmers who establish wetlands, planting contour grass strips, adding soil-building crops to rotations, planting grass buffer strips along waterways, and setting lower yield goals and thus reducing chemical use.

- Bushel-based supply management--Although the agrichemical industry and grain traders oppose this idea, the program could limit both production and payments, and allow storage or donation of bushels to special projects or sale to finance sustainable practices.

- Strengthening the Integrated Farm Management Program--Greater flexibility on use of farm acres, more crop rotations, increased use of legumes, and greater crop/livestock integration could result, though use has been slow due to lack of publicity about the program.

- Support development of the Farmer's Market Nutrition Program--Assist in direct marketing, provide community investment funds for small-scale, local processing, and fund research on the barriers to local processing and products.

- Redirect federally funded research--Place emphasis on improving environmental quality, ensuring high quality food, and increasing opportunities for family farming and rural communities.

- Redirect commodity check-off programs--Support would be increased for sustainable agriculture research, market development, and consumer information. Programs generate \$600 million/year, a small proportion of which could supplement current SARE programs.

- Encourage long-term protection of CRP acres--Continued incentives would be found to encourage trees and pastures, permanent grass buffer strips for erosion control, use of filter strips along waterways, and to establish community task forces to create local economic opportunities through use of CRP acres.

- Increase incentives for sustainable agriculture--Provide greater financial incentives to use practices that reduce chemical use, enhance soil conservation, and protect the environment.

- Enhance water quality--Build in incentives to reduce non-profit pollution by integration of water quality concerns with all comprehensive farm plans.

This workshop was part of a series of discussions among farmers, ranchers, researchers, government and industry representatives that are being held throughout the North Central states by members of the Sustainable Agriculture Working Group (SAWG is coordinated by the Center for Rural Affairs). Submitted by Charles Francis

NEW CSAS PAPER SERIES

The CSAS is starting a "Sustainable Systems Paper Series." It is our intent that the papers be: multidisciplinary in content related to the general area of sustainable ag.; preferably multiauthored; not published in the same form elsewhere; 4-10 pages. For example, these can be working papers describing research in progress or philosophical discussions. Submissions will be reviewed by at least one CSAS Faculty Associate or the Director, and edited by Pam Murray. Copies of papers will be sent to those maintaining the "Sustainable Agriculture Resource Notebook" (distributed last summer primarily to Extension personnel). Availability of the papers will also be mentioned in this newsletter. If you wonder whether your topic would be appropriate for the paper series, call Charles Francis.

PROCEEDINGS OF "FARM BILL" SEMINAR SERIES

On March 31 the last in a four-part seminar series titled "Designing the 1995 Farm Bill: Implications for Nebraska" was held. The four seminars focused on Natural Resources and the Environment, Animal Production Systems, Crop Production Systems, and Human Resources and Rural Communities. Proceedings containing transcripts of the panel members' remarks and the question/answer sessions will be available in May from the CSAS, sponsor of the series. Videotapes of the seminars are also available for check-out. Contact the CSAS for more information.

SUSTAINABLE AGRICULTURE INITIATIVE NATIONAL STATUS

REPORT (USDA)

(The following was condensed from a Congressional Briefing Paper, January 1993.) The Sustainable Agriculture Initiative is moving forward with over 42 states reporting many activities. According to the last FTE Summary, there are currently 676 FTE's being reported for the Sustainable Agriculture Initiative, the largest national activity with nearly 22% of total time.

A September 1992 GAO Report to Congress recommends that USDA (1) establish a departmental policy for sustainable agriculture and direct the under and assistant secretaries to develop goals to implement that policy, and (2) ensure the active participation of the National Sustainable Agriculture Advisory Council and the Regional Administrative Councils in coordinating sustainable agriculture programs; GAO also recommends that the Secretary of Agriculture direct Sustainable Agriculture Research and Education (SARE) Program management to provide guidance to regional offices to improve program monitoring and wider information dissemination.

Over the last few months:

1. The Secretary appointed the National Sustainable Agriculture Advisory Council, a 28-member governing body that will be very

important relative to the sustainable research and education activities.

2. Regional SARE councils have recently hired communications specialists to help in the dissemination of research results.

3. ECOP and ESCOP have continued their support for the sustainable agriculture initiative and have stated its importance for both Extension and the Experiment Stations.

4. Project dollars continue to support Extension programming with lanetor. Also, a new quality of life activity has been initiated by the SARE coordinating committee. Additional resources have been made available to the regions for Extension demonstration projects.

5. Regional team-building training programs continue to be implemented with the sustainable agriculture stakeholders.

6. A number of people continue to work to garner support for funding training activities.

7. The Extension Initiative Team continues to reach out to the states by initiating quarterly teleconferences.

8. In 1992, the Initiative Team and the University of Maryland sponsored a field day for 25 Congressional staff members to look at sustainable agriculture efforts in the Chesapeake Bay area.

9. Agent Training has been scheduled for the state presidents of the National Association of County Agricultural Agents to keep them apprised of the many activities.

10. Collaboration and coordination between CSRS and ES continues to be strong and productive.

Interest by the new Clinton administration in Sustainable Agriculture issues is very evident. The environment continues to be an important item for the 90's. The Cooperative Extension System must continue to be involved in the many alliances and coalitions forming around the sustainable issue. There will continue to be many changes in the USDA programs, which will highlight the importance of sustainable farming and ranching practices.

LEOPOLD CENTER PROGRESS REPORT

The January 1993 report from the Leopold Center for Sustainable Agriculture contains summaries of 25 research projects in the areas of: water quality; pest mgmt.; weed mgmt.; nutrient mgmt.; forestry, wildlife, and ecosystems; crops and soils; and education and socioeconomics. If you are interested in seeing the Table of Contents listing the research titles, contact our office. If the list contains titles of interest, we'd be happy to send you a copy of the summaries.

NSAS AND OCIA ANNUAL MEETINGS

Before the floods hit Columbus, the Nebraska Sustainable Agriculture Society and the Organic Crop Improvement Association held their annual meetings at the Platte Campus in February. Craig Cramer, editor of The New Farm magazine, was the keynote speaker who identified farmers as the real heroes in the quest for change toward a more sustainable agriculture. Workshops throughout the day featured discussion on crop rotations, energy efficiency on farms and in homes, rotational grazing, and alternative enterprises and products. The NSAS is a member-based organization with educational programs and on-farm research projects

headquartered in Hartington. The OCIA is a grower and processor membership group that explores organic crop production methods and marketing opportunities for Nebraska agriculture.

LIST OF FUNDING SOURCES AVAILABLE

The CSAS has put together a list of some of the funding sources available in 1992-1993 for research and education projects relating to sustainable agriculture. It is being distributed to those who last fall received a "Sustainable Agriculture Resource Notebook." If you did not receive this notebook but would like a list of the funding sources, contact the CSAS.

COSPONSORSHIP OF SEMINAR SPEAKERS

Thinking about bringing in a seminar speaker to talk on a subject related to sustainable agriculture? The CSAS is interested in cosponsoring seminars with academic departments or centers. Contact Chuck Francis to discuss the possibility of shared expenses and promotion.

CSAS ADVISORY COMMITTEE MEETING

Focus on change and the future dominated the conversations during the April meeting of the Sustainable Agriculture Advisory Committee in Lincoln. The CSAS Faculty Associates and Director presented a summary of the primary projects now under way with Center support: the ARDC Integrated Farm; the Economic, Environmental and Sociological Impacts of Alternative Production Practices; the National Sustainable Agriculture Curriculum; the Book of Sustainable Practices; and the Contour Strip Cropping Research.

Among the research priorities identified by the committee were:

- increased information and options with value-added products;
- economics of sustainable agricultural practices;
- environmental impacts of integrated systems;
- study how policy affects adoption and use of practices;
- efficiency of energy use in alternative systems;
- maximum utilization of human resources in the ag sector;
- impact of sustainable agriculture in the U.S. on world food production.

Educational priorities focused primarily on Extension programs:

- maximize the use of on-farm research and demonstrations;
- educate input dealers, lenders, and others in agriculture;
- facilitate discussions among those currently opposed to sustainable ag;
- tap community leaders and resources to maintain programs;
- initiate a column in Nebraska Farmer magazine;
- target urban audiences as well as rural people;
- influence the overall educational agenda of IANR.

There is an overall impression that agriculture is changing rapidly, and that the main direction is toward greater environmental awareness,

better resource use, and improved profitability through adding value to current raw materials. The CSAS should be in the forefront of this movement.

GELL-MANN PRESENTS VISIONS OF SUSTAINABLE WORLD

At the November 1992 Thompson Forum on World Issues, Murray Gell-Mann, recipient of the Nobel Prize in physics, presented his visions of the future. After describing the current challenges and how we have arrived at the present, Professor Gell-Mann described a series of transformations that need to be accomplished to achieve a sustainable future:

The Demographic Transition. World population is likely to level off at about 11 billion, twice the current number, sometime in the next century. This will be due to improvements in the position of women, reduced infant mortality and eventually social insurance for elderly, safe and available contraception and erosion of incentives for large families, and unfortunately, wars and starvation. Population growth encourages environmental degradation. We can encourage our government to fully support family planning around the world, as well as education and ways to increase incomes of poor people.

The Technological Transition. Gell-Mann talks about the ways technology will solve some problems. Our biggest challenge is to learn to predict the impact of new technologies and decide which new discoveries to leave on the shelf. Simple technological fixes can sometimes pose extremely complex environmental problems. For example, we used to pay people to drain wetlands; today we have government programs with incentives to preserve or even create them. We need to learn to be selective. We're now in a transition from military to other applications of the same materials technologies. We need appropriate technologies for other environmental situations, economic levels and labor supplies.

The Economic Transition. We need to creatively develop new accounting systems that take into account all of the long-term costs of a given activity or product. In Gell-Mann's terms: "Attempting to charge real costs is a principal element in the economic transition from living in great part on nature's capital to living mainly on nature's income." At the very least, we need to eliminate federal subsidies for destructive economic activities that would otherwise not be profitable. We need new accounting systems that include the depletion of nature's capital. A critical issue today is to achieve a balance between intergenerational equity we have to stop borrowing from the future and intragenerational equity how we solve the problems for people who are poor today. Some of today's ecological problems are due to the very poor scrambling to survive, and some are due to the wealthy squandering resources on frills.

The Social Transition. How do we deal with a world in which there are large numbers of people starving, lacking shelter, and dying young of diseases? We need to take a broad look at the causes of poverty and civil strife, at our own level of consumption, at the debt that has accumulated and is strangling development in many countries, at the

short-term goals of our economic and foreign policy and consider some major changes in philosophy.

The Institutional Transition. We have witnessed a gradual erosion of confidence in institutions. Regional and global cooperation is critical for environmental, for economic and for security reasons, and it depends on institutions. There is no greater waste of resources than on military conflict. Our current problem in this regard is what Gell-Mann calls "generalized tribalism," national interests, the need to be competitive in world markets, and the sharp and often violent competition among people with different religions, races, languages and nations. We are seeing a global move toward unity in some issues note the Rio meeting on the environment in 1992 while at the same time we see fragmentation within this unity.

The Ideological Transition. This same generalized tribalism leads to military competition, economic competition (comparative advantages), breeding competition such as the encouragement of large families by some religions, and resource competition. Is there a chance that a cultural evolution may be able to overcome what are quite possibly some inborn biological tendencies? Gell-Mann says we don't know to what extent some of our attitudes toward other people and toward our fellow organisms are governed by inherited, hard-wired tendencies developed long ago by biological evolution. He believes it may be that some of our propensity to form groups that don't get along with each other and some of our propensity to wreak havoc on the environment were once adaptive tendencies, but are so no longer, in a world of interdependence, destructive weapons, and increased capacity to degrade the biosphere.

We've learned to protect "us," however that is defined. Can we now design a future where that "us" encompasses the whole of humanity, and to some extent other organisms with which we interact and depend?

Editor's Note: This presentation by Gell-Mann helps us arrive at the central challenge: Where do we fit in the world, and how do we regard others of our species as well as other plants, animals and microorganisms? If we insist on continuing the domination paradigm, there is probably little hope for any sustainable future as we see it today. Gell-Mann presents a series of important transitions that can help us all build a desirable future that includes efficient use of resources, improved equity in resource use, and a respectful co-habitation of the planet with other organisms. The full text is available from the UNL International Affairs office.

Submitted by Charles Francis

NEXT GENERATION OF U.S. AG. CONSERVATION POLICY

In mid March, over 500 people gathered at a meeting sponsored by the Soil and Water Conservation Society (SWCS) in Kansas City to evaluate where we are and where we're going in conservation. The following are some highlights:

Jeff Zinn (Congressional Research Service) described a clear directive from Congress to reduce soil erosion in the U.S. As of this moment:

- nationally, erosion is about 685 million tons per year, but it's hard to correlate what happens on program acres versus those outside the program.
- program compliance and CRP acres have substantially increased the awareness of the farming community about the importance of erosion.
- total resource management, watershed management, and ecosystem management are directions for future programs.

Read Smith (farmer in Washington and Idaho) manages a large and widely recognized operation (9000 acres) on highly erodible land (HEL), and has received many conservation awards. He says:

- business as usual is not common today, with major changes in practices, farm plans, and loss of some farmers.
- non-point pollution problems cannot be solved by regulation, but need commitment by growers and a positive incentive program.
- erosion compliance is working, though not as rapidly as the public probably expects; equipment purchases and learning new systems have delayed compliance.

Robert Harness (Vice President for Environmental and Public Affairs, Monsanto) described the perspective of today's leaders in the chemical industry on water quality. He foresees a system that:

- uses best management practices (BMP) and chemicals only where they are needed to enhance food production.
- should establish state-by-state regulations and guidelines for regulation, or better yet provide incentives for voluntary participation.
- encourages a high level of education and training in safe handling and application of products, and update certification programs.

Tim Osborn (USDA Economic Research Service) led a discussion about the coming expiration of CRP contracts, the first of which expire in 1995. Some of the major concerns include:

- an average of 19 tons/acre of soil erosion are saved as a result of CRP at a cost of \$1.8 billion, and some of this will be lost with contract expirations.
- according to a survey of CRP participants, about half the land is likely to return to crops, about 1/3 will stay in grass, and about 1/10 will stay in trees.
- water quality, wildlife habitat, and protection of soil quality must all be maximized through any revision of CRP.

Jerry Jost (Kansas Rural Center) discussed the emergence of a new sustainable agriculture. He summarized the importance of several areas:

- increase the "eyes-to-acres" ratio in U.S. agriculture as the only way to maximize the use of natural wisdom on the land.
- more forage-based livestock systems are needed to have cattle on more acres, allow rotations, make more efficient use of grain, and promote diversification.
- the 1990 Farm Bill calls for practical training of extension agents, crop consultants, and others in agriculture; this needs to be funded.

Robert Thompson (Dean of Agriculture, Purdue University) projected a number of disturbing trends in agricultural research and education:

- reduced government support,
- declining student numbers,
- gradual loss of Ph.D. programs,
- reduced interest by the general public in agriculture,
- we will have only 20 ag colleges by the year 2020.

Chuck Hassebrook (Center for Rural Affairs) outlined a program that would:

- 1) carefully target cuts in commodity programs to preserve moderate-small farms.
- 2) encourage the stewardship provisions such as crop rotations and remove penalties.
- 3) get more mileage from set-aside programs by encouraging grass strips, restored wetlands, lower yield goals, added soil-building crops for participation in commodity programs.
- 4) assure that we get environmental benefits from CRP acres and extend the benefits, target benefits to most critical acres, have partial field enrollment.
- 5) make payments consistent with appropriate land use in CRP acres.
- 6) revise directions of federally funded research toward environment and rural communities.
- 7) need to integrate regulatory and education programs use positive incentives whenever possible.

The Soil and Water Conservation Society has an ongoing committee that will plan follow-through activities. All the participants were urged to carry ideas home and follow through with discussions and programs in their respective agencies. If you would like a more complete summary of the meeting, contact the CSAS office. Submitted by Charles Francis

NUTRIENT MANAGEMENT FOR WATER QUALITY, THE IOWA EXPERIENCE

(Excerpted from primary source: Inside Edge, Jan. 1993, quoting Paul Johnson, farmer and former Iowa legislative proponent of the 1987 Iowa Groundwater Protection Act; secondary source: Jan-Feb 1993 Issues in Sustainable Agriculture, U. of Missouri, John Ikerd, editor.)

"There's not a state in the country that has done more than Iowa. I think this is an example of what we can do if we set out minds to it," said Paul Johnson. Some key provisions of the bill include monies for creating the Leopold Center for Sustainable Agriculture, plugging abandoned wells, setting up demonstration projects for ag drainage wells and sinkholes, doing free well testing, removing underground gasoline storage tanks, extending recycling efforts, establishing training for farmers and commercial applicators applying pesticides.

The bill funded the Integrated Farm Management (IFM) Demonstration Program and set the state for the program's successor, the Model Farms Demonstration Program. The groundwater legislation, which is non-regulatory, has become a model for the rest of the nation.

"Iowa's approach was to put a great deal of effort into research, demonstration, and education. We've put a lot of responsibility on Iowa farmers and agriculture to show that a non-regulatory approach can work. I think the results of our efforts are good." Johnson said.

"If we can deal with pesticides as well as we did with fertilizer, we'll be a success," he added. "We've made great strides in nitrogen management, but I've been somewhat disappointed" with pest management. "Although we have a great deal of information on how we can reduce herbicide usage, we aren't changing farmers' practices very much," he said.

The state's nitrogen use rose to a high of 145 pounds an acre in 1985. This year (1992) the state's farmers applied 118 pounds an acre a 19 percent reduction from seven years earlier. Iowa State University studies show that Iowa farmers saved \$40 million in nitrogen costs in both 1989 and 1990. "It seems to me there's the potential to reduce herbicide usage by \$40 million a year, too, but we aren't doing it," Johnson said.

Iowa's IFM and Model Farms Demonstration projects were established to show that agricultural inputs could be reduced without hurting profitability. Johnson credits IFM for some of the state's strides in nutrient management.

Data collected through the IFM program has also shown that farmers could reduce pesticide use substantially. He praised the self-examination process set up for IFM programs. "We follow up with what we've done and ask ourselves whether the program worked," Johnson said.

The words research, demonstration, and education are used frequently by Johnson while talking about environmental legislation. Effective laws or restrictions, he said, cannot be made unless they go through those three steps.

NEW BOOK SERIES: OUR SUSTAINABLE FUTURE

The University of Nebraska Press has begun a new book series titled Our Sustainable Future that provides an interdisciplinary forum for the discussion of issues and creative approaches bearing on the development of sustainable communities and resource bases at both the regional and global levels. Many of today's challenges require systemic, multidisciplinary approaches. Anticipated are works that would explore, among other possibilities: sustainable development strategies, theories and practices of living systems and renewable resource use, role and structure of communities, natural and cultivated ecosystems, history and analysis of critical issues, environmental and social ethics and values, creative conflict resolution, indigenous knowledge systems, leading-edge technologies and management strategies, economic and social transformations, and evolution into a post-industrial society. The first books to be published this year include:

- Ogallala: Water for a Dry Land by John Opie (May);
- Building Soils for Better Crops by Fred Magdoff (May);
- Agricultural Research Alternatives by William Lockeretz and Molly Anderson (Oct.);

- Crop Improvement for Sustainable Agriculture by Brett Callaway and Charles Francis (Nov.);
- Future Harvest: Pesticide-Free Farming by Jim Bender (Jan. 1994).

The editors welcome inquiries and submissions from all areas, especially those that synthesize and integrate knowledge and expertise across traditional disciplines. Prospective authors may be farmers, ranchers, activists, or policy makers; they need not be academic scholars. Every field economics, sociology, philosophy, anthropology, human development, history, biology, public policy can serve as a starting point for thinking about a world that can sustain us and future generations. Interested authors should contact Nancy Rosen, University of Nebraska Press, 901 N 17th, Lincoln, NE 68588-0520, 402-472-5945.

UPCOMING EVENTS

Contact the CSAS office for more information:

- July 14-15 Leopold Center Annual Conference, Ames, IA
- August 5 Annual Sustainable Ag. Tour in south central Nebraska (details in next newsletter)
- August 15-18 North American Agroforestry Conference, Ames, IA



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