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November-December 1994 CSAS Newsletter

The Center for Sustainable Agricultural Systems (CSAS) in the Institute of Agriculture and Natural Resources (IANR) at the University of Nebraska-Lincoln (UNL) 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. Electronic versions of the CSAS bimonthly newsletter are sent to SANET, PENPages, and the internal IANRNEWS 10-14 days before those on our mailing list receive their hard copy. They are also available along with other sustainable ag information on the gopher: IANRVM.UNL.EDU.

(Note: The electronic version is not sent to individual e-mail addresses.) To be added to the "hard copy" newsletter mailing list, or for questions or comments, contact the newsletter editor, Pam Murray, Coordinator, Center for Sustainable Agricultural Systems, 221 Keim Hall, University of Nebraska, Lincoln, NE 68583-0949, 402-472-2056, fax -4104, e-mail csas001@unlvm.unl.edu.

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HEIDI CARTER IS NEW EDUCATION COORDINATOR

We are pleased to announce that Heidi Carter has joined our CSAS staff as Education Coordinator. Heidi comes to us with several years of experience developing materials and disseminating information about sustainable agriculture. She held a similar position with the Kerr

Center for Sustainable Agriculture, and was one of the original technical specialists for USDA's ATTRA program.

Heidi has a M.S. degree in range science from Texas A&M and a B.S. degree in biology from Eastern Montana College. Her on-farm experience includes working on low-input cattle and sheep ranches.

The Education Coordinator position is initially funded by a grant from the North Central Region Sustainable Agriculture Research and Education (SARE) program to conduct regional training in sustainable agriculture techniques and systems. Heidi will be working with Drs. Chuck Francis (Nebraska), Clive Edwards (Ohio), George Bird (Michigan), and key contacts in all 12 states to coordinate the training projects in the North Central Region. Heidi can be reached by contacting the CSAS office.

DIVERSITY AND SUSTAINABLE FUTURE SYSTEMS

Evaluating the Role of Diversity in Designing a Sustainable Agriculture was the theme of a symposium at the November American Society of Agronomy annual meetings in Seattle. Following a hierarchical framework based on scale, the topics at the symposium ranged from diversity in micro-organisms and soil fauna to agroecosystems at the bioregional scale. Ann Kennedy (ARS/USDA, Pullman, WA) discussed microbial diversity and how this could contribute to sustainable agroecosystems. Agricultural and natural ecosystems have different levels of soil community diversity, a topic explored by Deborah Neher (Horticulture, North Carolina State U.). Richard Cruse (Iowa State U.) described his research with farmers on spatially diverse cropping systems, and how this related to sustainability in the long term. At the farm scale level, Leisa Huyck (Humboldt State U., Arcata, CA) and Chuck Francis (U. of Nebraska) described a process for designing a diverse farmscape. Diversity in human activity in communities and the rural/urban interface were evaluated by Lorna Butler and Coleen DePhelps (Washington State U.). Richard Olson (U. of Nebraska) described the potential importance of diversity in landscapes and watersheds. Finally, a team led by Mike Burkart (ARS/USDA, Ames, IA) illustrated the use of GIS techniques to describe diversity at the bioregional level. These presentations will be published by the ASA in a symposium proceedings edited by Olson, Francis, and Steve Kaffka (UC-Davis). The publication is partially supported by a grant from the W. K. Kellogg Foundation to the CSAS.

Submitted by Chuck Francis

IN THE SEMINAR SPOTLIGHT

Joel Salatin, Polyface, Inc., Swoope, VA, Nov. 28.

The name of the Salatin organic family farming operation reflects one of Joel's philosophies: diversity. This "Farm of Many Faces" counts among its enterprises cows, pigs, chickens, rabbits, vegetables and firewood.

Joel's grandfather was a charter subscriber to "Organic Gardening and Farming" magazine. As he states in his book, "Pastured Poultry Profits" (see Resources): "I am the privileged third generation to continue the principles based on the belief that God created the Earth and established humanity as its steward, to nurture, protect and embellish. This philosophy precludes the use of toxic chemicals, debasing substances, and erosive practices, and instills instead an insatiable thirst for agricultural truth. The truth manifests itself in natural principles of plant and animal life. The farm should capitalize on these laws rather than fight against them."

An example of looking to nature is Joel's use of chickens and hogs as composting machines. Four days after rotationally grazing the cows, chickens are allowed in that section to eat the flies and break up the cow patties. Beginning in January the cows eat hay in a shed where they remain clean and dry and use less energy. Corn is periodically added to the ever-deepening bedding. When the cows return to pasture in the spring, hogs are brought in to root through the bedding for the corn, composting the material in the process. These "pigerators" save on labor and fuel. Joel's slide presentation included many such examples of complementary operations.

In addition to looking to nature for answers and using a systems approach in which diverse enterprises complement each other, additional themes running through his presentation included using on-farm inputs as much as possible (he makes extensive use of composting), and reducing risk by increasing the percentage of income from on-farm processing and direct marketing.

The four main risks faced by farmers are weather, pests, disease and price. For a farm to stabilize its income, it needs to be insulated as much as possible from those risks. Diversity and selling valued-added products directly to the consumer are ways to accomplish that. Chickens, rabbits and firewood are processed on the farm. Joel saw his profits increase 10-fold, from \$300 to \$3,000 per acre, when he switched from selling trees on the stump to selling firewood. He bartered for the use

of a neighbor's machine to process the trees.

Joel does no advertising; he relies on free samples and then word of mouth. Since all of his customers (approximately 400) come to his farm for their products, he saves on labor, transportation and packaging costs.

Joel's visit was cosponsored by the Center for Sustainable Agricultural Systems, Center for Grassland Studies, and Nebraska Cooperative Extension. A video of the presentation is available for viewing or check-out in the CSAS office.

NEBRASKA AG IMPACT PROJECT SET TO BEGIN

The Nebraska Ag IMPACT project is reaching out to Nebraska farmers, ranchers and community members to design projects that will improve their farms, communities and environment. The IMPACT project will support farmers and ranchers in learning about and experimenting with sustainable farming systems through a statewide network of community-based projects.

The project plans to support at least one group in each of the five extension districts in Nebraska. Groups selected to participate in the project will develop goals for their farms and communities, and will formulate a plan to implement one or more projects drawn from these goals. Projects can include on-farm research, demonstration and education efforts. Groups will receive small grants and technical assistance to support activities and project development.

One of the main barriers to adoption of sustainable farming systems is the absence of community support for individuals who adopt sustainable practices. Group interaction and farmer-to-farmer networking can be an effective way for people to learn about and experiment with sustainable agriculture in a supportive community environment. The IMPACT project offers both producers and non-farm community members an opportunity to discover, modify, adopt and promote sustainable practices while benefitting the environment and supporting rural communities.

Priority will be given to groups that are farmer/rancher organized and driven, include both farm and non-farm members, involve Extension Educators and other technical information providers (like NRCS and the NRDs), and plan for activities that address innovative aspects of sustainable agriculture at the community level. Groups that include the needs of beginning farmers/ranchers will receive additional support.

Project staff from the Center for Rural Affairs (CRA), the Nebraska Sustainable Agriculture Society (NSAS), and the University of Nebraska Extension Service will be available to help groups plan for activities and prepare funding proposals and applications. Staff members can also help interested individuals locate prospective group members. For application forms or additional information, call Wyatt Fraas at CRA (402-254-6893) or Cris Carusi at NSAS (402-254-2289).

Source: NSAS Newsletter, Fall 1994

PRIVATE EXTENSION SYSTEM IN ARGENTINA

Can you imagine farmers paying \$500 to \$700 per month to belong to a private extension system? There are currently over 1400 farmers in Argentina who buy into this approach in exchange for access to their own professional crop and animal production advisor, a monthly meeting with other farmers, and publications from their national organization. The Argentinian Association of Regional Groups for Agricultural Experimentation (known locally by the acronym AACREA) is an organization founded by farmers some 27 years ago following a model from France. CSAS director Chuck Francis recently spent two weeks visiting farms and farm families in Argentina and also presented a paper on future sustainable systems at the organization's annual symposium.

The heart of the movement is the farmer group, six to ten farmers who meet once each month on one of the farms and do a complete assessment of agronomic, livestock, and economic practices. The owner gives a short presentation, the group takes a one- to two-hour tour of most fields and pastures with the agronomist advisor, and everyone comes together for an extended evaluation of what was observed. No one pulls punches during this lively interchange, as farmers challenge their host on everything from rates of fertilizer or herbicide application to how many people are really needed to efficiently and economically run the livestock enterprise. The critics know the business; they are involved in the same activities. The farmers who provide critiques are also honest and forthright, since they know the group will be evaluating their own operations within a few months. It is this frank interchange that gives people constructive criticism on how to improve their productivity and profitability. Francis was surprised not only by the detailed sharing of production and financial information, but also with the level of environmental concern. One farmer was looking across a field of soybean residue that had about a 1% slope, and lamented the degree of erosion that had occurred after the last rain. "I'll have to change row direction and try to cross the contour in this field next season," he commented. This unique service may be demonstrated to

farmers in Nebraska and Iowa in the near future if funds can be identified to bring several farmers and their agronomist advisors here to discuss the system.

Submitted by Chuck Francis

CUBAN AGRICULTURE REORIENTS TOWARD SUSTAINABILITY

During a recent ten-day stay in Cuba, I gained a glimpse of the massive changes underway in the agricultural sector. These changes have been brought about largely by the collapse of economic relations with Eastern Europe in the late 1980s. For several decades Cuban agriculture had been based on the Soviet model of large State-owned and managed farms, heavily reliant upon fossil fuel and agrichemicals.

We visited several research institutions, production units (UBPCs), and cooperatives. The most striking impression I have of these visits is the widespread commitment to the common purpose of making Cuban agriculture maximally self-reliant. The methods being advanced to achieve this coincide with many of those advocated by proponents of sustainable agriculture.

Current research efforts have several major aims: (1) to find substitutes for agrichemicals in achieving crop protection; (2) to maintain and improve soil quality while maintaining crop production; (3) to reduce fuel needs of the agricultural sector, and (4) to make negligible any impediments to implementation of research findings.

Simultaneously, major reorganization of agricultural production has been occurring over the past few years. These include the virtual dissolution of the State-farms and the formation of UBPCs having a relatively high degree of autonomy (e.g. have their own relations with banks). Also, true cooperatives of private farmers have existed for some time, and these are being further encouraged. Among the incentives recently implemented are open food markets, at which prices received by producers are many times that received for produce sold to the State.

In early 1995 I will be making several presentations about the trip. If you're interested in attending, please give me a call (402-472-9563) in early January. Also, the organization (Global Exchange) that arranged this trip is organizing a farmer-to-farmer trip to Cuba in February. If you've never been there, I recommend this as a way to be introduced to Cuban agriculture and to gain access to people who might otherwise be impossible to meet. There are perfectly legal ways to get around U.S. government restrictions on travel to the island.

Global Exchange's telephone number is 1-800-497-1994.

Submitted by Chris Teo-Sherrell

EPA CONDUCTS SPECIAL REVIEW OF TRIAZINES

The U.S. Environmental Protection Agency (EPA) announced in November that it has begun a Special Review of three of the most widely used herbicides in the U.S.: atrazine, cyanazine and simazine (known collectively as triazines). These pesticides are primarily used on corn, but are also used on sorghum and other crops. The Special Review will examine the risks and benefits of the pesticides, estimate the costs of shifting to alternatives, and determine whether the pesticides should be canceled, further restricted, or allowed to be used as before.

CRITERIA FOR JUDGING RELEVANCY OF RESEARCH TO SUSTAINABLE AG

In order to comply with the 1990 Farm Bill mandate to USDA to support research and extension in sustainable ag, a new evaluation system is being tested in several universities. To explore the impact of basic research on sustainable ag, an October workshop in Raleigh addressed four topics that are integral to the management of research in the near term and for developing the vision and strategic plan for ag research in the long term: (1) clarification of criteria that can be used to judge the relevancy of research to sustainable ag, (2) defining high priority research areas, (3) identifying current programmatic and infrastructure impediments or opportunities for new research critical to the development or modification of farming systems that will advance sustainable ag, and (4) how the ag research community can address goals given in the Farm Bill definition of sustainable ag by conducting professionally rewarding research and implementing sustainable ag systems. Implicit in these discussions was the problem of how continuous long-term funding could be obtained to conduct the research needed to achieve sustainable ag production. The workshop included people from 18 professional societies.

Source: AGRONOMY NEWS, Dec. 1994.

CALIFORNIA PASSES BIOS BILL

In late September, the California legislature passed a bill that calls for a reduction in the use of chemicals in agriculture. Also

included in the bill is a provision that calls for the integration of biological controls in agriculture. Known as BIOS, the law provides funding for up to five pilot projects focusing on the different commodities produced in the state. Farmers will receive technical assistance and financial incentives to replace synthetic chemicals with biological controls. The law also has the support of the California Farm Bureau Federation. The bill was modeled after the Community Alliance with Family Farmers' BIOS projects, which have producers and extension working together on biological controls.

Primary Source: "BIOS Bill Passes--New Era for Ag Begins!"
AGRARIAN ADVOCATE, Oct/Nov 1994.

Secondary Source: Sustainable Agriculture Week, Nov. 9, 1994,
Institute for Agriculture and Trade Policy

RURAL COMMUNITY DEVELOPMENT RESOURCES

The Heartland Center for Leadership Development in Lincoln, NE is pleased to announce the creation of a rural community development resource library in cooperation with the University of Nebraska-Lincoln College of Architecture Library. The Collection, which is being made possible through a grant from the W. K. Kellogg Foundation, will contain high-quality rural community development resource materials funded by the Kellogg Foundation and other key sponsors of rural programs. For the first time these materials will be housed in a distinct resource library and made accessible to aid new programs in all parts of North America. The library will begin operations in early 1995.

The grant also provides the Heartland Center with support to develop a training and technical assistance program for organizations that want to start or refine their own rural community materials or curricula. In addition to technical assistance, the Heartland Center expects to sponsor annual training seminars for programs that want to send representatives to Lincoln to learn more about how to develop programs for rural communities.

The Heartland Center is currently collecting materials for inclusion in the resource library. Materials from your program or another you nominate may be eligible. If you have any questions or would like to nominate materials, please contact Mike Grimm or Vicki Luther at the Heartland Center, 941 "O" Street, Suite 920, Lincoln NE 68508, 1-800-927-1115, ext. 805, mgrimm@unlinfo.unl.edu (or) vluther@nde4.nde.state.ne.us .

RESOURCE GUIDE ON SUSTAINABLE AG MATERIALS

The third edition of "The Showcase of Sustainable Agriculture Information and Educational Materials" is a 100-page booklet containing information about publications and educational materials useful to farmers who want to stay profitable while protecting the environment. The Showcase was compiled by members of the Sustainable Agriculture Network (SAN), with support from the USDA Sustainable Agriculture Research and Education (SARE) program. SAN is a consortium of people from universities, government, business and non-profit organizations dedicated to exchanging information about sustainable agriculture. SARE is a competitive grants program that provides funding for projects that promote agriculture that is environmentally sound, economically viable and sustains rural communities. (See Resources to order.)

BIOTECHNOLOGY AND SUSTAINABLE AGRICULTURE: A BIBLIOGRAPHY

Many crops and agricultural products have been modified using the molecular tools of biotechnology. At the same time, an increasing number of farmers are adopting sustainable cultural practices. Are these two developments compatible? Over the past decade a body of literature has accumulated addressing this question. This Special Reference Brief (SRB 94-13), prepared jointly by the Biotechnology Information Center and the Alternative Farming Systems Information Center of the USDA's National Agricultural Library, contains citations and keywords to 127 books, reports, magazine and journal articles that focus on this issue. It provides an introduction to the debate surrounding the use of biotechnology in sustainable farming systems. (See Resources to order.)

RESOURCES

"Pastured Poultry Manual" by Joel Salatin, \$15 (video also available), PolyFace, Inc., Rt 1, Box 281, Swoope, VA 24479, 703-885-3590. (Editor's Note: The Kerr Center for Sustainable Agriculture has a project relating to free-ranging chickens and has worked with people interested in composting (even dead broilers), PO Box 588, Poteau, OK 74953, 918-647-9123.)

"Biotechnology and Sustainable Agriculture: A Bibliography," National Agricultural Library, Fourth Floor, 10301 Baltimore Blvd., Beltsville, MD 20705-2351, 301-504-5947. Also available via: gopher.nalusda.gov.

"The Showcase of Sustainable Agriculture Information and Educational

Materials," \$4.95 from Sustainable Agriculture Publications, 10 Hills Building, University of Vermont, Burlington, VT 05405-0082.

"Tap Water Blues," report by Environmental Working Group on drinking water supplies contaminated with agricultural herbicides, \$43, EWG, 1718 Connecticut Ave., NW, #600, Washington, DC 20009, 202-667-6982.

"The Future Use of Conservation Reserve Program Acres: A National Survey of Farm Owners and Operators," \$19.50 (\$15 for members), Soil and Water Conservation Society, 7515 Ankeny Road, Ankeny, IA 50021, 1-800-843-7645, ext. 19.

"Biological Control: A Natural Alternative," 26-minute video produced by USDA suitable for classroom and extension meetings, \$50, National Audio Visual Center, 8700 Edgeworth Drive, Capitol Heights, MD 20743-3701, 301-763-1896.

"Midwest Biological Control News," \$12 annual subscription, Dept. of Entomology, U. of Wisconsin, 1630 Linden Drive, Madison, WI 53706.

"Suppliers of Beneficial Organisms in North America," 30-page booklet includes listings for 120 different beneficial organisms under 13 different categories, free from the Department of Pesticide Regulation, Environmental Monitoring and Pest Management Branch, 1020 N Street, Room 161, Sacramento, CA 95814-5604, 916-324-4100.

"Sustainable Agriculture in the American Midwest: Lessons from the Past Prospects for the Future," by Gregory McIsaac and William R. Edwards (eds.), \$32.95, U. of Illinois Press, Hamden Post Office 4856, Baltimore, MD 21211, 410-516-6927.

"Community Supported Agriculture on the Urban Fringe: Case Study and Survey," \$5, Rodale Institute Research Center, 611 Siegfriedale Rd, Kutztown, PA 19530.

"Harvest of Devastation: The Industrialization of Agriculture and its Human and Environmental Consequences," by E.G. Vallianatos, \$11.50 (+ \$3.50 shipping), The Apex Press, 777 United Nations Plaza, Suite 3C, New York, NY 10017.

PANNA (Pesticide Action Network North America) maintains a gopher containing a database, news items, reports, lists of resources and information from other organizations dealing with pesticide and sustainable agriculture issues; host = gopher.econet.apc.org. EcoNet's Pesticide and Sustainable Ag Desk maintains a gopher containing materials from both national and international activist and NGOs; host =

gopher.igc.apc.org.

Paper series, "Sustainability in the Balance," includes the following: "Raising Fundamental Issues," "Expanding the Definition of Sustainable Agriculture," "What Do We Want to Sustain? Developing a Comprehensive Vision of Sustainable Agriculture," and "The Human Face of Sustainable Agriculture: Adding People," free, Center for Agroecology and Sustainable Food Systems, U. of California, Santa Cruz, CA 95064, 408-459-4140, rats@cats.ucsc.edu

DID YOU KNOW...

Iowa currently accounts for 25% of U.S. pork production.

A report by the Environmental Working Group in October stated over 14 million people, primarily in the Corn Belt, are drinking tap water contaminated with cancer causing herbicides. Supporting those findings was another report made in June at an American Water Works Association meeting which put the figure at 19 million. The latter report was made by a Kansas City engineering firm which analyzed EPA data.

A national crop survey by the Conservation Technology Information Center finds that no-till planting increased by 4.2 million acres and deep-till plowing increased by 3.5 million acres last year in the U.S.

EPA calls soil loss into streams and lakes the number one cause of water pollution in the U.S.

According to a survey by the Soil and Water Conservation Society, farmers nationwide plan to return 63% of the acreage now in CRP to crop production.

The manufacturer of BST estimates that 7% of U.S. farmers are using the hormone.

A recent GAO report stated: "The use of unapproved chemicals (in food production/processing) has become a routine practice."

The League of Conservation Voters gave the 1994 Congress its worst environmental ratings in 25 years.

Declining hog and corn prices pushed the index of prices received by farmers to a six-year low in November.

A North Carolina State U. poultry specialist found that storing

aflatoxin-contaminated corn with ammonia-laden litter from poultry houses gets rid of the contamination--making it possible to use the combined litter and corn for cattle feed.

COMING EVENTS

Contact CSAS office for more information:

Jan. 23-25 -- 1995 Conference on Sustainable Agriculture, sponsored by The Council for Agricultural and Science Technology, Washington, DC.

Jan. 28 -- Nebraska Sustainable Ag. Society (NSAS) Western Area Conference, Ogallala, NE.

Feb. 2-5 -- North American Farmers Direct Marketing Conference, Knoxville, TN.

Feb. 14-15 -- Nebraska Vegetable Conference, Columbus, NE.

Feb. 16-17 -- Sustainable Ag Directors Workshop, Lincoln, NE.

Feb. 23-24 -- International Conference on Nitrogen and Water, Everett, WA.

Feb. 24-25 -- 2nd National Conference for Beginning Farmers, Columbia, MO.

Feb. 25 -- NSAS annual meeting, Columbus, NE.

Mar. 3 -- Leopold Center annual conference, Ames, IA.

Mar. 17-18 -- Entrepreneurial Opportunities in Agriculture: The Art of Marketing, Kearney, NE.

May 8-10 - Planning for a Sustainable Future: The Case of the North American Great Plains, Lincoln, NE. (See Sep-Oct CSAS newsletter for details.)



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