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September-October 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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TARGET PRICE EFFECT ON SUSTAINABLE AGRICULTURE

The following is a summary of a paper by Glenn Helmers, Kevin Bernhardt and Matt Spilker, UNL Department of Agricultural Economics. Contact the CSAS for a copy of the complete paper.

In 1995, our government will once again take on the task of crafting agriculture legislation. The multiple goal legislation will include income support, international trade, food safety, and perhaps the fastest growing and most debated goal of environmental protection. Policy-makers have a desire to introduce greater program incentives for sustainable agriculture. However, the farm program is complex; thus, it is paramount that "cause and effect" impacts of specific components of commodity programs be properly identified. If the communication of cause-effect is not clear, we cannot expect the policy process to give desired results.

Target prices, in particular, have been suggested as one of the primary economic incentives favoring nonsustainable cropping systems. The intuition related to the target price impact appears obvious on the surface. Using corn as an example, the intuition is that if the corn target price is lowered then producers receive less income from corn production. Lower income would seem to give an incentive to grow less corn in favor of a more diversified crop mix. It is also pointed out that, in general, program crops are the heaviest recipients of chemicals.

We feel that this is an oversimplification of the "cause and effect" of changing the target price in two ways. First, legislative constraints within the 1985 and 1990 acts do not permit program incentives to affect crop selection in this conventionally-thought manner, i.e, target prices should not be placed on a single crop. Second, we do not think it is a foregone conclusion that as commodity support levels are reduced, the result will be a more sustainable cropping system. We will argue these two points via an example of a 600 cropland acre farm with a 300 acre Crop Acreage Base (CAB). Figure 1 shows the breakdown of both payment acres and permitted program crop acres.

A very important factor in understanding the "cause and effect" of changing the target price is that production of program crops is accomplished by two types of producers. The two types are participants in commodity support programs and nonparticipants.

Participants. If considering just participants, then, with the exception of optional flex, changing the target price has no effect! The reason is that base restrictions limit, or "lock in," the amount of program crop acreage. Therefore, our example farmer would grow between 225 and 270 acres no matter how much, positive or negative, the target price changed.

Nonparticipants. Since nonparticipants are not eligible for program benefits, then changing the target price level has no direct effect. Thus, all else being equal, target price changes do not provide any signal to alter crop mix for nonparticipants.

Switching Between Participation and Nonparticipation. Since the target price is a part of the mechanism that results in an incentive to participate, then a change in the target price will change the participation incentive. For those producers who switch their status, the signals for crop selection will also change. If target prices are reduced, the participation incentive will be less. Therefore, former participants may decide to no longer participate as a first-round choice, and visa versa for increases in target prices.

Will a Switch to Nonparticipation Promote More Sustainable Crop Mixes? As mentioned, a common held belief is that a switch to nonparticipation will lead to less acreage of the program crop in favor of a more sustainable crop mix. This may be the case, but if so it is because the market place profitability of an alternative crop mix is higher than the current mix. If the alternative crop mix is not more profitable then, interestingly, as target prices are reduced total acreage of the program-crop may well increase.

An example may help illustrate this point. Suppose, our example producer's most profitable crop mix in the open market is a corn-soybean rotation. Therefore, under participation, his/her crop mix included 300 acres of soybeans, 270 acres of corn, and 30 acres of set-aside. Now, under nonparticipation the most profitable crop mix will be 300 acres of soybeans and 300 acres of corn, thus program crop (corn) acreage increased with decreasing target prices. Another noteworthy factor is that if future participation is anticipated this may cause some level of "stickiness" in changing the level of program crops grown due to an unwillingness to lose base.

Higher target prices may cause former nonparticipants to participate. In response, acreage of the program-crop likely decreases as set aside and base acreage requirements are engaged. This phenomenon of decreased program-crop acreage in response to higher target prices is opposite to what might be expected if target prices acted identically to market prices with respect to supply response.

Policy discussions and legislative processes often take place using simple and direct impact statements. Under the complex and evolving nature of farm program legislation, clarity and accuracy are paramount. Our concern is that we may be communicating the wrong "cause and effect" relationship between target prices and crop selection. Misallocation of this "cause and effect" relationship may lead to unintended policy changes.

Figure 1

Program Crop Acreage		Payment Acreage
270 ac.	Maximum Possible	225 ac.
195 ac.	Minimum without losing any future base	195 ac.
270 ac.	If neither flexibility provision is utilized	225 ac.
225 ac.	If normal flex is fully utilized	225 ac.
195 ac.	If normal and optional flex are fully utilized	195 ac.

NEBRASKANS EXPLORE DIVERSITY

How will Nebraska farmers reduce production costs and diversify enterprises? On August 5, over 50 farmers, students and educators joined the 13th annual Sustainable Agriculture Tour which this year focused on resource use efficiency, intensive management, and diversified enterprises and value-added products.

At the South Central Research & Extension Center, Alan Corr and Roger Elmore described mung beans and waxy corn as crops that are not common to the region, but that grow well in our climate. Critical

to these and other alternative crops are learning about markets and scouting potential contracts before seeding crops.

Oak Creek Farms represents a creative and futuristic approach to reaching new markets with products sought by today's consumers. Ben Jones and Jack Horst guided a tour of their processing facility in Edgar and their farm nearby. Blue corn, white corn, clear hilum soybeans, wheat, sunflowers, amaranth, and alfalfa are grown on certified organic acres, and the partners add value through processing and direct sale. They also showed off a small "beefalo" herd that is unusually hardy, grazes on native grass, and produces a lean beef product.

Dale Loschen and sons grow a range of crops with reduced inputs including white corn, waxy corn, specialty milo, sunflowers and cotton. Did he say cotton?! Dale and friend Willie Pittner have learned about this exotic crop from growers farther south, and find that it grows well without the multiple insecticide treatments that are needed in regions without our intense winter conditions.

A large seed production operation with value added through husking, drying and shelling was described by Jim Starr, who farms with his brother, Joel, and their father near Hastings. They also produce compost from husks and urban yard waste, and have found that they can cut nitrogen applications to 50 #/acre or less while maintaining excellent seed yields and minimizing weed problems with a ridge tillage approach.

The Grain Place south of Marquette is a world-class processing and formulation business that produces a wide range of organic grain products. Dave and Don Vetter certified their farm organic in the 1970s, and gradually built up to the current plant where they process their own grains as well as those purchased from other growers across the country. They employ close to 20 people from the immediate area, adding value to the community as well as to their grain products. Dave Vetter is active in the national and international certification organizations and freely gives his time to educational activities of the university and other groups.

These tours provide a look at the diversity and potential for adding value to products that are a likely part of Nebraska's future agriculture.

CSU PROFESSOR CALLS FOR CHANGES IN WEED SCIENCE

Dr. Robert Zimdahl, professor of weed science at Colorado State University, gave a seminar on the UNL campus August 27. The following comments are excerpted from his presentation.

Today I would like to share six ideas about weed science:

- 1) Weed science in its early days might better have been called herbicide science, because in a sense we've made an idol of herbicides.
- 2) Reliance on the use of herbicides to solve weed problems has been too great.
- 3) All of weed science would benefit from truly integrated weed management systems, which means we need to study the botany and ecology of weeds.

- 4) Weed science has been an economically dominated technical speciality that's been divorced from its basic science of botany.
- 5) Weed science is moving toward domination by population biology and ecology.
- 6) Weed science would benefit from an open discussion on values.

Weed science really began after World War II with the development of chemicals like 2,4-D. Unlike plant pathology and entomology, weed science missed the foundational stage that looks at things like life cycles and population ecology. In earlier times, things were expensive, people were cheap, and good farmers used sound ecological practices. But with the surge of technology, things became cheap and people became expensive, and weed scientists and others were able to neglect ecology, evolution, carrying capacity, and limiting resources. We thought technology was beneficial or at least benign, but we were wrong. Technology is never neutral; it will always bring about social change.

To be fair, the chemical herbicide paradigm was very successful and was strongly supported by land grant institutions. Scientists would have been derelict in their duties, in the early days of weed science, if they had tired of herbicide research and said, "I'm going to do population biology now." But weed scientists today are beginning to ask the right questions about where we're going. I think studies in population biology and weed ecology will lead us to weed management systems that complement, not replace, redundant herbicide systems. I think weed scientists are striving for a reasonable accommodation between a productive environment and a protected environment. We have emphasized production in the past.

Weed science needs to develop an ethical base; we don't have one now. We need to look at assumptions and questions we normally don't think about. What will be the effects of weed science and weed management systems on the disappearance of family farms, the decline of rural communities, or on water quality? Agriculture is part of human culture, and must function as part of a shared environment, a shared ecosystem, rather than striving to dominate the system. I suggest weed science should consider adopting an ethical stance that reflects the value "I care" rather than "I am right." Many weed scientists now believe that "management" should dominate our thinking rather than "control." I think we can work "with" weeds rather than "against" weeds.

We need to take a holistic approach to weed management. When relying on a single technology like chemical herbicides, solving one problem creates another because something will come in to take the place of what was controlled.

Dr. Zimdahl recommended the following book published in 1984:
Insects, Experts and the Insecticide Crisis: the Quest for New Pest Management Strategies by John H. Perkins.

NEW COURSE IN AGROECOLOGY AND SUSTAINABLE DEVELOPMENT

Global ecology, agriculture, resource use, and sustainable development will be the focus of a new course that is being planned for Spring 1994. Chris Teo-Sherrell, Richard Olson, and Chuck Francis will co-teach

this 3-credit course that will be offered to seniors as a "capstone experience" to pull together concepts and discipline-specific details from previous classes at UNL. The course will combine lecture/guided discussion with small group projects and facilitated learning experiences both in the classroom and outside. Topics include: world crops, soils, and ecosystems; systems methodology and organization; management of soil fertility, pest populations, and water; alternative economic models and bottom lines; and impact of agroecosystems on human communities and quality of life. Call Chuck Francis at 402-472-1581 for more information.

CONKLIN COMMENTS ON DELANEY CLAUSE REPEAL

In response to the negative reactions to the Clinton administration's proposal to replace the Delaney clause with a "negligible risk" standard, Paul Conklin of Duke University commented:
"The organic/sustainable ag. movement is shooting itself in the foot by clinging to the Delaney clause. More than one study has shown that some organic produce has small levels of pesticide residue by the time it gets to the shelves. I think it hurts us to spend our energy on this rather than on the really good reasons to cut pesticide use: (1) ecosystem damage, (2) farm worker and rural community poisoning, and (3) soil loss from nonsustainable practices. These are harder to sell because they don't affect the general public directly, but it can be done."

Editor's Note: Contact the CSAS for documents detailing Clinton's proposal on pesticide reform.

NATIONAL POLL ON FARMERS AND THE ENVIRONMENT

The following is excerpted from an article by extension economist Dr. John Ikerd.

Farmers' concerns for the environment were explored in a national Gallup poll in late 1992. A random sample of 1,200 men and women between the ages of 18 and 65 who farmed at least 240 acres were included. Below are some survey results ("farmers" refers to survey respondents):

- Farmers believe contamination of surface and ground water with pesticides and fertilizers is the most serious environmental problem confronting agriculture.
- Nearly 40% think primary responsibility for dealing with environmental issues lies with farmers, while less than 1/3 feel it lies with government, and 1/5 with agricultural manufacturers.
- 20% said they were practicing some type of conservation tillage, and 22% were using reduced amounts of pesticides.
- At least 80% believe current safeguards are sufficient to protect consumers, farm workers and the environment, but 85% feel the general public doesn't understand the safeguards in place.

Ikerd concludes, "The public will be far more impressed with positive steps taken by farmers to address public perceptions than by any public relations campaign that could possibly be mounted to defend the agricultural status quo."

Source: Issues in Sustainable Agriculture, July-August 1993, U. of Missouri.

IKERD TO SPEAK ON UNL CAMPUS

Dr. John Ikerd of the University of Missouri will give two seminars on East Campus:

- Nov. 3, "Economics and Quality of Life Issues in Sustainable Agriculture," East Union, 3:30-4:30. A social hour immediately following the seminar is co-sponsored by the UNL Department of Agricultural Economics, and the Center for Rural Community Revitalization and Development.
- Nov. 4, "Wildlife and Sustainable Agricultural Systems," room 203 Natural Resources Hall, 2:30-3:30. Refreshments will be available prior to the seminar.

Dr. Ikerd's presence on campus is co-sponsored by the CSAS and the Department of Forestry, Fisheries and Wildlife.

Future scheduled seminars:

- Jan. 21, Dr. Clive Edwards, professor and former head of the Entomology Dept., Ohio State U.
- Feb. 18, Dr. Matt Liebman, agricultural ecologist and program coordinator of Sustainable Agriculture Program, U. of Maine.

MARTY STRANGE COMMENTS ON SUSTAINABLE AGRICULTURE

At the Pennsylvania Association of Sustainable Agriculture's spring conference, Marty Strange, with the Center for Rural Affairs, Walthill, Nebraska, made the following observations:

- Sustainable agriculture is about farmers taking back control of their farms.
- It is profit-oriented because economic survival is the foremost motivator.
- It is pragmatic because its aim is to make money by farming better.
- It instills a sense of pride and social responsibility, and an ethic of stewardship.
- It encourages the integration of crops with livestock and it promotes diversity.
- It is closely associated with beginning farmers -- farmers who are committed to not repeating the mistakes of their predecessors.
- It is upbeat, progressive and thinking about the future.
- It is not supported and is generally hindered by current government policies.
- It is the only environmental movement in the nation that is driven by producers.

Primary Source: "Passages," Spring 1993, PASA, Millheim, PA.

Secondary Source: "The Land Stewardship Letter," Summer 1993, Marine, MN

JOB OPPORTUNITIES WITH CENTER FOR RURAL AFFAIRS

Position #1 - One full-time or several part-time organizers to work with

rural Nebraskans on issues that affect rural life, the environment, and economic development such as state tax reform, health care, school finance, corporate farming, and economic development policy.

Position # 2 - Full-time organizer to work with family farmers, grassroots environmental activists and sustainable agriculture groups in several rural Midwestern states on 1995 farm bill issues including redirecting federal farm supports from large scale agriculture to small farmers and redirecting federal policy to support sustainable agriculture.

Contact: Marty Strange or Chuck Hassebrook, P.O. Box 406, Walthill, NE 68067, 402-846-5428. Write for full job descriptions and/or send letter of application, resume, brief writing sample and references. Deadline is November 7, 1993.

SENATE HEARING ON SUSTAINABLE AGRICULTURE'S ROLE IN RURAL ECONOMIC DEVELOPMENT

On July 14, 1993 the U.S. Senate held a hearing to investigate the potential of sustainable agriculture to generate rural economic development. Among those who testified was Ron Kroese, then Executive Director of the Land Stewardship Project. Kroese said the concept of sustainability has deepened to embrace ethical issues of fairness and social responsibility, and include farm size and the number of farms, the physical and mental health of farm families and farm workers, the impact of farming on the viability of rural communities and towns, the opportunities for young people to get started in farming, and the humane treatment of animals. Kroese said the new paradigm of sustainability is measured in terms of health rather than growth -- health of the land, health of the family, health of the community. Optimal production within the recognized constraints of the ecosystem is valued over maximum production.

Source: "The Land Stewardship Letter," Summer 1993, Marine, MN

WORLDWATCH SAYS FOOD SUPPLY UNABLE TO MAINTAIN POPULATION

A recent study entitled "Vital Statistics 1993: The Trends that Are Shaping Our Future" by the Washington-based Worldwatch Institute said that the oceans cannot keep up with the demands from a growing population on fish supplies. Fish harvests have declined 8% since 1988 and have consistently remained at around 97 million tons. The scarcity of fish is just one of many elements that point to a decreasing global supply of protein, the report says. In addition, while soybean harvests are setting world records, output per person has been in decline. World meat supplies have also fallen off since 1990. "We're seeing an overall tightening on the food front that at least raises the possibility of declining per capita consumption on a worldwide basis for the foreseeable future of seafood, meat produced from rangelands and grain," said Lester Brown, president of Worldwatch. The report also said worldwide use of fertilizer has decreased due in large part to the removal of subsidies for their use in Eastern Europe. Also, the world's ability to generate windpower continued to grow last year while the world's nuclear capacity remained flat.

Primary Sources: Lisa Bransten, "Population Growth Outstripping Food Supply, Report Says," FINANCIAL TIMES, July 20, 1993; "Food Production Isn't Keeping Up," DES MOINES REGISTER, July 18, 1993.

Secondary Source: Sustainable Ag. News Bulletin, July 23, Institute for Ag. and Trade Policy, Minneapolis.

NEW DIRECTOR OF INSTITUTE FOR ALTERNATIVE AG.'S POLICY STUDIES PROGRAM

Dr. Katherine Reichelderfer, formerly Acting Administrator of the USDA Economic Research Service, has been named the Director of the new Policy Studies Program at the Henry A. Wallace Institute for Alternative Agriculture. The program will respond to the compelling need for sound facts and information on the sustainability of agriculture to help inform the national policy-making process, including development of the 1995 farm bill.

DID YOU KNOW . . .

A national committee is working on a definition for wetlands and will present a report in a year, including design criteria for constructing wetlands.

According to Census of Agriculture data, large-scale farms (defined as having annual product sales of \$500,000 or more) increased their share of farmland from 10.5% to 12%, and their share of farm product sales from 32.4% to 38.2%, between 1982 and 1987.

Deputy Secretary of Agriculture Richard Rominger is a former board member of the American Farmland Trust and is a California farmer.

According to the National Cattlemen's Association, the use of sound conservation practices by cattle producers has increased 25 to 30% in the last 10 years, and is continuing to increase.

A September 1993 USDA-ERS Ag Outlook Summary report states that of the average \$40,000 net farm income (1992 data), farm-related income in farm operator households averages \$4,300, with the remaining \$35,700 coming from off-farm jobs.

As of October 1, 1993, Nebraska law prohibits dumping waste any place other than a licensed landfill, meaning farmers/ranchers can no longer use remote areas of their land as a dump site.

Approximately half of the money from the Nebraska lottery which began this September will be used for environmental purposes, including contamination cleanup.

Dr. Jerry DeWitt, Assistant Director for Iowa State U. Extension, recently assumed a part-time USDA-ES assignment to encourage sustainable ag programs.

COMING EVENTS

Contact our office for more information:

Nov. 3-4 -- Dr. John Ikerd seminars (see related story in this issue)

Nov. 5-7 -- Small Farm Today Seminar & Trade Show, Columbia, MO

Nov. 12-14 -- 8th Annual Sustainable Ag. Conference, Raleigh, NC

Nov. 13 & 20 -- Horticulture Crop Diversification Conferences, Carroll and Cedar Rapids, IA

Nov. 17-18 -- Breimyer Ag. Policy Seminar, "Rethinking the Role of Agriculture in Policy for Rural America," Columbia, MO

Nov. 18 -- "Changes and Choices for Agriculture and Rural Communities" conference, cosponsored by Center for Agricultural and Rural Development (CARD), Leopold Center, ISU Extension and Council Bluffs Chamber of Commerce, Council Bluffs, IA

Dec. 1-4 -- First International Symposium and Third National Conference on Sustainable Agriculture, Puebla, Mexico.



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