

Letter

A NEWSLETTER OF THE LEOPOLD CENTER FOR SUSTAINABLE AGRICULTURE

VOL. 13 NO. 4 WINTER 2001

Study shows no economic advantage for Iowa farmers to plant GMO crops

By **Michael Duffy**
Associate director

Two years ago, I reported the results of a study that showed crops in Iowa planted with genetically modified seeds provided no significant difference in economic returns to farmers based on the 1998 crop year (see Fall 1999 *Leopold Letter*). I repeated the study this year using information from 2000, and found the same results: use of genetically modified seed did not appear to impact a farmer's bottom line for either corn or soybean production.

The information that I analyzed was collected by the USDA's National Agricultural Statistics Service as part of its

annual Cost and Return survey. It was gathered in the late fall and early winter during personal interviews with approximately 350 Iowa farmers. They were asked what crops they grew, and whether the seed they planted contained a genetically modified organism (GMO). The survey covered all aspects of crop production including yields, pesticide and fertilizer use, seeding rates and the type and nature of machinery operations performed.

My analysis used information from a random selection of 172 soybean fields and 174 corn fields from the USDA survey. These numbers and the selection

GMO CROPS (continued on page 2)

The mystery of restored wetlands

By **Laura Miller**
Newsletter editor

It is surprising that the water quality in the Iowa Great Lakes region has not improved in recent years. More than 300 restored wetlands and large amounts of land in agricultural set-aside programs haven't stemmed the flow of nitrates, phosphorus and other nutrients into the region's lakes. Why not is a mystery.

Arnold van der Valk, Iowa State University botany professor and director of Iowa Lakeside Laboratory at West Okoboji Lake, is searching for the clues needed to solve the wetlands mystery. He is director of a three-year research project jointly funded by the Leopold Center and the Iowa State Water Resources Research Institute. Working with van der Valk are Bill Crumpton, also in botany at ISU, and Steve Fisher who runs the Boybjerg Water Chemistry Laboratory at Lakeside.

The Leopold Center work further expands an update of a water quality study done in the 1970s by Roger Bachmann and John Jones from ISU. Bachmann and Jones identified 50 subwatersheds in the Iowa Great Lakes Watershed (IGLW), a 64,000-acre area in northwest Iowa that drains into the Okoboji lakes, Spirit Lake and the Gar lakes. They took weekly samples from the lakes and water leaving the subwatersheds between March and August of 1971, 1972 and 1973. Starting in spring 1998, van der Valk's team began monitoring some of the same watersheds on a weekly basis during the ice-free season for concentrations of nitrate, total nitrogen and total phosphorous.

"We found out that the overall water quality has not changed in 30 years and in some cases, it has gotten worse, despite a lot of water quality improvement

IOWA GREAT LAKES (continued on page 5)

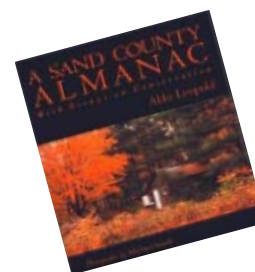
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Similar results obtained from 1998 crop year

GMO CROPS (continued from page 1)

methods employed provide statistically reliable estimates at the state level. Although this analysis is only a cross-sectional survey and not a side-by-side comparison of GMO and non-GMO crops, it represents a picture of what Iowa farmers experienced, under varying conditions and situations, during the 2000 crop year.

Following is a summary of my analysis. I recently presented more details at the American Seed Trade Association meeting in Chicago. My speech, and accompanying charts, are posted on the Leopold Center web site. Copies also are available by contacting the Leopold Center.

Herbicide tolerant soybeans

Approximately 63 percent of the Iowa acres planted to soybeans in 2000 were varieties that had been genetically modified to tolerate herbicides used in weed control. In 1998, just over 40 percent was grown from GMO seed. Use of herbicide-tolerant varieties resulted in lower herbicide and weed management costs. However, they also had higher seed costs and slightly lower yields.

Yield. The herbicide-tolerant soybeans averaged 43.4 bushels per acre while the non-tolerant soybeans averaged 45.0 bushels per acre. The percentage difference in yields is identical to the difference found in the 1998 crop year. In 1998, the yields were 49.2 and 51.2 bushels per acre for herbicide-tolerant and non-tolerant soybeans, respectively.

Seed costs. The seed cost for herbicide-tolerant soybeans averaged \$5.69 per acre more than the non-tolerant fields. In 1998, the difference was \$7.53 per acre. The expense for non-tolerant soybeans was lower in 1998 while the expense for the tolerant varieties was slightly higher.

Herbicide costs. The non-tolerant soybeans averaged \$26.15 per acre for herbicides, which was \$6.17 higher than the herbicide costs for the tolerant fields. This cost difference is similar to what was found in 1998 even though the herbicide costs, in general, are higher in 2000 when compared to 1998.

Bt corn

A genetic modification used in corn production is the addition of *bacillus thuringiensis* (Bt) to fight a major pest, the European corn borer. The study included 128 non-Bt cornfields and 46 Bt fields. Similar to herbicide-tolerant soybeans, Bt corn produced a return essentially equal to the non-Bt corn.

Yield. The average yield for Bt corn was 152 bushels per acre. The average yield for the non-BT corn was 149 bushels per acre. This yield difference is less than the difference found in the 1998 study—160.4 bushels per acre for Bt corn and 147.7 bushels per acre for non-Bt corn

Fertilizer costs. The Bt cornfields had slightly higher total fertilizer costs per acre. The Bt fertilizer cost was \$53.30 versus \$48.67 for the non-Bt fields, much similar to the results found in 1998. Although no production reason

exists for the higher fertilizer costs, it is hypothesized that the Bt fields are managed more intensively which leads to the increased fertilizer costs.

Seed costs. The costs for seeds vary depending on number chosen. Seed costs for the Bt corn averaged \$4.31 per acre higher using the conservative assumptions employed in this study.

Other considerations. If returns are not significantly different, why have we seen such an increase in the use of GMO technology? For herbicide-tolerant soybeans, farmers answer that question by saying they can cover more acres more quickly and that they do not have to worry about weed management as they did in the past. For Bt corn, farmers view use of GMO seed as an insurance policy if there's an insect infestation. There are many such non-quantifiable benefits and costs associated with using GMO seeds.



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The Leopold Center for Sustainable Agriculture seeks to identify and reduce adverse socioeconomic and environmental impacts of farming practices, develop profitable farming systems that conserve natural resources, and create educational programs with the ISU Extension Service. It was founded by the 1987 Iowa Groundwater Protection Act.

The Leopold Letter is available free from the Leopold Center at 209 Curtiss Hall, Iowa State University, Ames, Iowa 50011-1050; (515) 294-3711.

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U.S. Vietnam Era Veteran. Any persons having inquiries concerning this may contact the Director of Affirmative Action, 318 Bearshear Hall, (515) 294-7612.

Observations after a year on the job

As I write this, I have now completed my first year as full-time director of the Leopold Center. A couple observations I had made as a farmer before coming here seem to be validating themselves.

First, the future looks increasingly bleak for midsize farmers who produce undifferentiated commodities for the global market. As the food and agriculture industry becomes intensively consolidated, only the very largest farms will have access to commodity markets. Consolidated firms want to do business with only the largest producers so they can reduce transaction costs and more readily control production systems to serve their business interests. But without access to free and open markets, small and midsize farms cannot survive, no matter how efficient they may be.

From a strictly “productionist” perspective, the loss of midsize farms is not a problem. It doesn’t make any difference whether commodities are produced by a large collection of small and midsize farms or a few mega-size farms. From this perspective, our national goals for agriculture are met as long as farmers continue to produce the food and fiber for our country’s domestic and export needs.

In terms of landscape ecology and social amenities, however, the loss of midsize farms could be devastating. More than 80 percent of Iowa’s farms fall into the small and midsize category. Most are still in the hands of farmers who grew up on those farms and whose families have owned the farms for several generations.

Most importantly, the local land wisdom – knowledge gained from years of caring for land on a particular farm – still exists in Iowa. Ecologist Ed Grumbine reminds us in his book, *Ghost Bears*, that land can be managed well only when people live in a local ecosystem “long enough and intimately enough” to learn about that ecosystem. Preservation of years of accumulated local land wisdom is perhaps the most compelling reason to protect Iowa’s small and midsize farms.

Once small and midsize farms have disappeared, Iowa also may be a less pleasant place to live. Who would

I believe that with a very small investment, Iowa could reap enormous benefits from an agriculture-of-the-middle.

want to live where mega-size farms with absentee landowners dominate the rural landscape? Agriculture would become just another large industrial complex, managed in accordance with the business interests of distant corporations and run with cheap, unskilled labor.

My second observation comes out of experience on my own family farm in North Dakota. Although small and midsize farms are severely threatened, the future holds unprecedented opportunity. Small and midsize farms can set themselves apart from the mass commodity market and capture sufficient value from the marketplace to thrive. After a year at the Leopold Center, I am more convinced than ever that this observation is true.

One example is the increasingly popular markets for farm products that have a story. These markets are no longer limited to the roadside stand where a farmer sells produce from the bed of a pickup truck. The farmer-owned Dakota Pasta Growers cooperative in North Dakota is now one of the largest pasta processing companies in the United States. Organic Valley, also farmer owned, is now doing \$100 million of business annually. Niman Ranch sells pork products to the most upscale restaurants in the country, and demand is outpacing supply.

According to some surveys, more than 20 percent of consumers now prefer food products that are not part of the mass market. They’re also willing to pay up to 20 percent more for products that meet the quality and production standards they want. Simply marketing products that are “locally grown” can now capture more value.

Small and midsize farms have a clear competitive advantage in these new markets. Their smaller size enables them to remain more flexible and innovative, empowering them to meet changing market demands more readily than large, mass production farming systems. And as Harvard economist Michael Porter reports, it is difficult (although not impossible) for a large mass-production firm to also produce

higher value, differentiated products.

Developing the infrastructure that can connect these sophisticated food customers to the small and midsize farms to produce the food products (and related environmental benefits) that customers want remains part of the challenge.

Meanwhile, large farms that mass-produce undifferentiated commodities for consolidated firms face three types of challenges. First is the challenge of determining how to obtain a fair share of the food dollar for producers. Producers in the broiler industry (the first production segment of the farm economy to move almost entirely to consolidated value chains) have found that collective bargaining is the only option open to them. The second challenge is to determine how to remain competitive with producers in other parts of the world who have dramatically lower land and labor costs. A third challenge will be learning how to mass-produce undifferentiated commodities in a manner that meets community environmental and social expectations.

As we enter the 21st century, the Leopold Center can best serve Iowa by developing community partnerships that can create an infrastructure of family-owned businesses to produce and market differentiated farm products for new and emerging markets. Thriving family-owned farms and businesses go a long way to build thriving rural communities that are socially and environmentally responsible.

I believe that with a very small investment, Iowa could reap enormous benefits from an agriculture-of-the-middle. Midsize farms, producing differentiated products processed in family-owned, and cooperatively-owned, processing facilities and sold in both local and international markets would enable farmers to capture more value, and retain much of that value on the farm and in local rural communities. All of Iowa would win. —



An open letter to policymakers

EDITOR'S NOTE: Associate director Mike Duffy attended a meeting where the following letter was drafted and sent to Sen. Tom Harkin (D-IA) as he opened debate on the 2002 Farm Bill. We're reprinting it as a message for all policymakers, and as a guide to help our readers evaluate the legislative progress on the newest farm bill.

Dear Legislator,

On October 25, 2001, a group of veteran family farm advocates and farm policy experts gathered at the Rainbow Lake Lodge outside of Chelsea, Iowa, to discuss solutions to the current political stalemate on federal farm policy. The meeting was convened by former State Committee Director Gary Lamb, a lifelong farmer and former policy advisor to Senator Harkin.

From the outset, the group recognized the difficult position Senator Harkin is in, given both the inherent complexity of current farm programs and the tension that exists between competing interests dependent on government payments and a growing chorus of critics. Adding to the challenge has been the difficult time frame resulting from the ill-considered House Farm Bill proposal and additional budget pressures in the wake of September 11.

The group agreed that articulating a vision for rural America and setting goals for farm and food policy would enable all other policy ideas and discussions to be evaluated in context. For its part, the group started with the goal of achieving a more economically healthy and diverse rural economy that supports a growing middle class.

The group concurred with the point made by Dr. Neil Harl that benefit/cost analysis seems absent from the evaluation of our current programs, hampering our ability to understand the economic impact of current farm programs on the wider economy. Given that the recent history of farm programs is littered with rhetoric about "saving family farms"—with no demonstrable success—the application of benefit/cost analysis to our programs is long overdue. This analysis should include community impacts, ecological impacts and social costs as well the economic impacts.

The group further believes that approaching the policy debate on the basis of shared values might further encourage dialogue and problem solving among policymakers. For example, the values of fairness, equity, respect,

stewardship, husbandry, entrepreneurship, security, and opportunity all resonate with various participants in this debate. Policy alternatives should be evaluated to see whether they support these values.

The group made four assumptions:

1. That farm programs are largely structured to benefit large agriculture and agribusiness interests by encouraging more production and lowering the price of outputs. The failure to more effectively target farm program benefits has led to the demise of the small and medium-sized operations and ensured that farm program benefits are capitalized in higher cash rents and land prices.
2. That given current economic and budget conditions, there will be limits and perhaps reductions in the amount of money the Congress will spend on farm supports in the future.
3. That farmers who currently participate in the program need more income to continue farming, and would prefer to get it from the marketplace rather than from direct government payments. There needs to be a mix of measures to raise farm income including policies that raise prices by balancing supply and demand and policies that support income through direct payments.
4. That a comprehensive cap on government payments at or below \$75,000 is needed to free up resources for other policy objectives such as conservation, competition and direct producer subsidies.

There is substantial evidence of an increasing gap in income between urban and rural America. Many of our poorest counties are rural and dozens are located in the upper Midwest. This trend is continuing despite the tens of millions

It is inconceivable to me that an ethical relation to land can exist without love, respect, and admiration for land, and a high regard for its value. By value, I of course mean something far broader than mere economic value: I mean value in the philosophical sense. — Aldo Leopold

"... approaching the policy debate on the basis of shared values – fairness, equity, respect, stewardship, husbandry, entrepreneurship, security, and opportunity – might further encourage dialogue and problem solving."

of dollars allocated through farm programs. A strong U.S. economy requires all sectors to be strong, including farmers and rural businesses.

Key elements of a balanced and successful farm policy would include:

- Increasing farm gate income to stabilize and revitalize local economies
- Targeting farm program payments to small and midsize farms
- Encouraging rural entrepreneurship
- Re-establishing meaningful competition in all sectors
- Supporting the creation of value-added enterprises that increase the farm and ranch share of food system profits and strengthen small and midsize farms. This should include processing as well as marketing cooperatives. It should also include support for developing new markets that reward farmers who produce products in ways that make them more valuable to consumers (e.g. organic, natural, etc.)

And while the nation is rightly fixated on the issue of security in a military context, we must broaden that view to include global and domestic economic interests and food security. Poverty and hunger fuel social unrest everywhere. Just as rising incomes are the solution to poverty, so too is producing food at a profit the key to domestic and global food security.

We urge a closer examination of the claims that low-priced U.S. food exports serve as a positive economic engine at home and also serve as a positive substitute for strong local food economies in developing countries.

Restored wetlands need time to work

IOWA GREAT LAKES (continued from page 1)

projects in the watershed,” van der Valk said. “Phosphorus levels remain about the same and if anything, nitrate levels seem to be considerably higher.”

The Leopold Center project, now in its second year, builds on ISU’s updated study in two ways:

- To determine whether subwatersheds in the IGLW with more area in restored wetlands and set-aside programs contribute lower nutrient loads to the Iowa Great Lakes than those that remained mostly in row-crop agriculture, and
- To gauge whether land use changes over the past 30 years have significantly affected nutrient loads to the lakes.

First, subwatersheds in the Bachmann and Jones study were matched to 10 subwatersheds sampled in the updated study. The watersheds represented a variety of areas in which row-crop production had changed since the 1970s.

“There is no evidence that nitrate loads to the Iowa Great Lakes have decreased significantly since the 1970s,” van der Valk reported. “Nevertheless, efforts to reduce nitrate loadings to the lakes have been effective in those subwatersheds in which cropland acres have been reduced and in which wetlands have been restored.”

During the second year, researchers identified six restored wetlands on private property surrounded by crop fields. Since March, they have been taking weekly samples from inflow and outflow at each wetland to determine the levels of nitrogen and phosphorus. The goal is to determine the effectiveness of each restored wetland in removing nutrients.

“This has been more time consuming than we anticipated,” van der Valk said. “We are finding drainage tiles that were not broken when the wetlands were constructed because there weren’t any records when the tiling was done. There might not be records when the tiles were fixed or changed, and it can be very difficult to find tiles underground.”

van der Valk explained that in the construction of wetlands, existing tiles must either be broken to interrupt the water flow, or made impermeable to local water if they are part of a larger drainage network. Location and size of the tile break,

pipes to channel water to the surface, small dams, and other construction designs are all part of the wetland restoration.

The team is analyzing data, but van der Valk said they are finding that many of the restored wetlands are improperly designed or sited. He explained that restored wetlands, in general, might not work because they are not located at critical points in a watershed, or they are not large enough to handle nutrient loads. Restored wetlands also may need as many as 8 to 10 years to reach optimum nutrient-removal capacity.

“The bad news is that many of these restored wetlands were not well designed and in some cases are short-circuiting the problems they were intended to solve,” he said. “The good news is that if wetlands are restored in a proper way, they can remove up to 90 percent of the nitrates and a large amount of the phosphorus that normally would be washed into a lake or waterway.”

The team has identified 304 restored wetlands in the IGLW. During the next year, team members hope to develop a model that can be used to evaluate other wetlands in the watershed and pinpoint areas where improvements may be needed.

van der Valk said water quality improvement is a long-term process. Research on buffers and wetlands, including major efforts funded by the Leopold Center, have been important but need time to be put to use on the landscape.

“The political and social realities don’t always match the biological and hydrological boundaries,” he said.

“Farmers have been very, very supportive of wetland restoration and land conservation programs but as of yet, these are nontargeted programs available on a voluntary basis. It’s going to take a lot of time and more fine-tuning to see results.”

“We do know one thing,” he added. “Nutrient loads will go up if we don’t do anything at all.”

Iowa wetlands: An overview

- The Iowa Department of Natural Resources estimates that 97.5 percent of Iowa’s pre-settlement wetlands has been lost and only 36,500 acres of prairie pothole marshes remain.

- Private landowners control 78 million acres of wetlands in the United States.

“We have no buffers anymore between farm fields and lakes and rivers,” explains ISU botany professor Arnold van der Valk. “Historically, wetlands provided such a buffer.

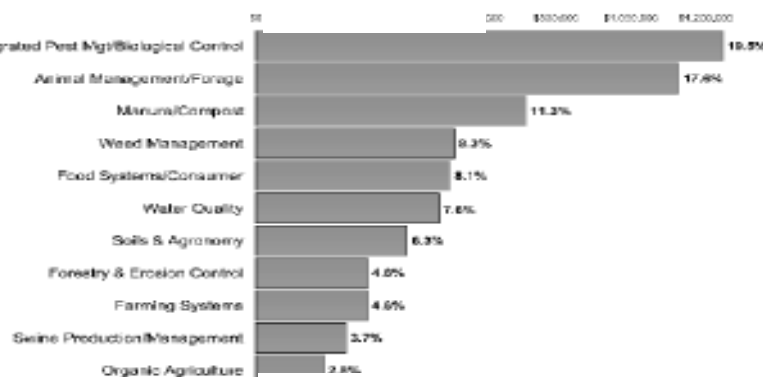
“The preservation of existing wetlands and the restoration of wetlands, which are both needed, is going to require a partnership between farmers and environmentalists. And it will need to be done on private land if it is to be effective.”

Water quality in the Iowa Great Lakes is monitored by volunteers. Below, Yvonne Taylor, Marlys Catrusse and daughter Catie practice taking water samples.



Photo by Iowa Lakeside Laboratory

What's happened in 30 years?
Leopold Center Competitive Grants, 1993-2002
What kind of projects have been done?



Total phosphorus concentrations for West Lake Okoboji from 1972 through 1999.

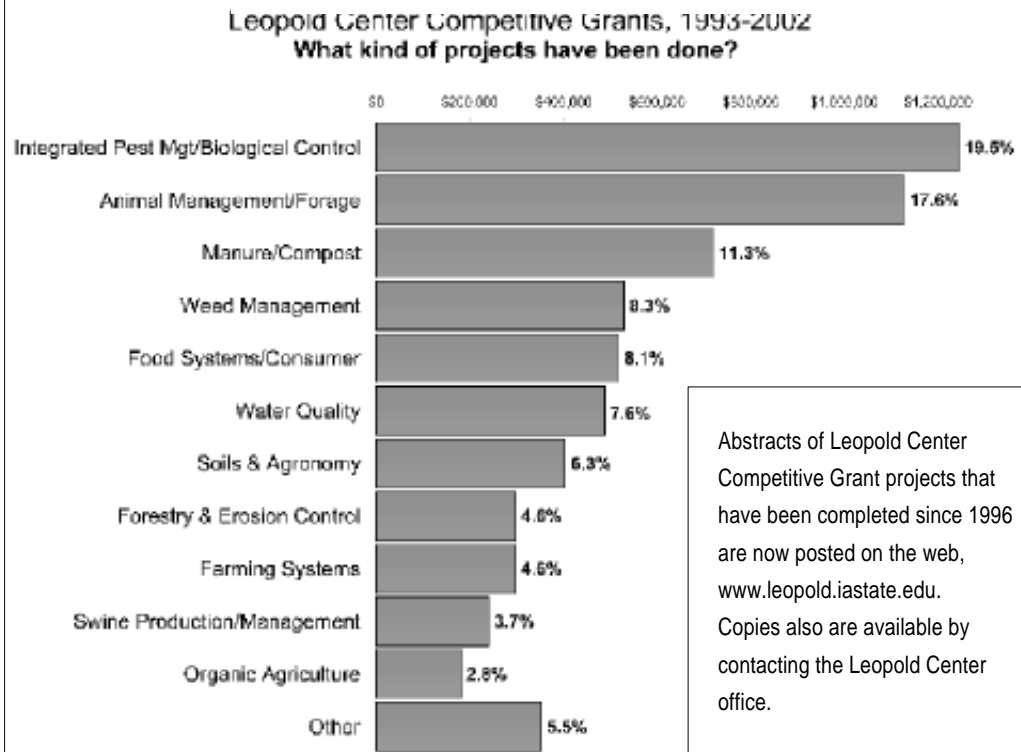
About our partners

Partners are the critical component of the successful work of the Leopold Center and its investigators, conference planners and members of research teams and special projects. The Leopold Center has funded 224 competitive grants, 153 events and a number of special projects and research teams. While too numerous to list here, Leopold Center partners have included a number of ISU departments, ISU area and county extension offices and field staff, resource conservation districts, government agencies, community colleges and school districts, many farm organizations and non-profit groups, associations, networks and programs. Our past partnerships have been linked to funding, whereas our current and future partnerships are focused first on values, learning and information sharing, with joint funding efforts and direct Center support as the secondary level of interaction.

A look back at Leopold Center partners and projects

What kind of projects has the Leopold Center done?

Leopold Center Competitive Grants by topic, 1993-2002



Hoops research gets additional funds



The Leopold Center has invested more than \$400,000 in its hoops initiative since 1997.

The Leopold Center's alternative swine production research initiative that focuses on hoop barns for pigs will be getting additional funds.

As of presstime, Center staff learned that \$200,000 for further development and adoption of hoop barn technology was included in the Agriculture Appropriations Bill signed by President Bush. Sen. Tom Harkin (D-IA), whose office supported the additional funding, notes that "hoop barns represent a sustainable alternative for pork producers in Iowa and across the nation."

The Leopold Center requested the funds to continue work begun in 1997 to evaluate low-cost, environmentally friendly

hooped buildings as an alternative for swine production. Mark Honeyman, an Iowa State University animal science professor who has worked with the hoop barn research team, also known as the "Hoop Group," said that about 2,100 hoop barns are now being used in Iowa livestock production following their mid-1990s introduction.

"That's a remarkable rate for new technology adoption," Honeyman said. "We're past the feasibility stage. Now it's time to fine-tune research like changing hog diets. The cost and versatility of the structures are attractive

HOOPS

(continued on next page)

...and a look ahead at upcoming projects

Where is our current work?

A look at 2001-2002 Competitive Grant projects



In July 2001, the Leopold Center began or continued funding for 41 projects in its Competitive Grants program. The shaded counties indicate work sites where principal investigators will be conducting the research or educational project.

More projects in the works

The Leopold Center's first call for projects and partners to begin work on the new marketing, ecology and policy initiatives resulted in ideas and proposals from 79 groups and individuals.

"We were very pleased to receive 79 letters that represent many creative and imaginative ways we can help shape a new agriculture for Iowa," said Leopold Center director Fred Kirschenmann. "Staff members are anxious to develop the new partners and programs to bring the future directions to the ground in recognizable programs. But they also understand that there is a different environment in Iowa for each of these initiatives that they are charged to keep integrated as a whole."

This was reflected in staff discussion of the broad range of ideas that came with the first call in September. "We didn't have too many letters focused heavily on policy but that is understandable," explains Mike Duffy, leading the policy initiative. "Most policy research will rise in conjunction with other work, answering questions needed to put other pieces in place."

Of the letters related to markets, leader Rich Pirog notes that the challenge is making the best choices in a rapidly evolving environment. "There's a lot of excitement in the local food system and value chain markets, but we need to keep these folks linked so that the best decisions are made for the people of Iowa."

"People find it easiest to focus on specific research and conservation demonstration activities and there are some interesting projects in the mix," said Jeri Neal, leader of the ecology initiative. "I think the keys that will make ecological design the default goal for Iowa's agriculture and communities are still out there."

Staff members will have completed preliminary evaluations for proposal development just after this issue goes to press.

Initiative will continue work

HOOPS

to small- and medium-sized producers."

Since 1997, the Leopold Center has invested more than \$400,000 in the hoops initiative, including construction of three hoops at ISU's Rhodes Research Farm in Marshall County. A number of related research projects also have been funded by the Center.

"I am delighted to learn about this additional funding that will help us continue working toward practical, on-the-ground options for farmers," said Leopold Center director Fred Kirschenmann.

"Five years ago the Leopold Center

had the foresight to make a long-term investment in other options for swine production systems," he added. "This laid the scientific groundwork that has helped make hoop structures a sensible alternative for Iowa producers."

Kirschenmann said that funding at the federal level recognizes Iowa State University's role as a national leader in hoop structures research.

"We are pleased that the Leopold Center could be a catalyst for bringing about this important work," he said. "This is the kind of partnership we hope to create in many other areas as we continue working toward our vision for a new Iowa agriculture."

Leopold Center initiative spurs pork marketing discussion

By Rich Pirog
Marketing and food systems initiative

Iowa has been a leader in alternative swine management systems such as hoop house structures. It also has been the focal point for raising pork for specialty markets such as Niman Ranch and Organic Valley.

Combine this leadership with the growing interest by consumers in where their food comes from and how it is raised, and you can understand why it was an easy choice for the Leopold Center's new marketing initiative to first focus on pork marketing. The Center's marketing approach starts and ends with telling a unique story to the consumer about the farm and farmer, and that producer's environmental stewardship and animal husbandry practices.

In September, more than 130 farmers, entrepreneurs, educators, researchers and business representatives gathered in Ames to explore the opportunities for telling their own stories. With support from ISU Extension, Iowa Farm Bureau Federation and the Iowa Pork Producers Association, the Leopold Center and the Iowa Pork Industry Center coordinated the conference, "Niche and value added marketing: What's in it for me?"

Sessions focused on various aspects of niche marketing of pork, including certification and animal welfare issues, business planning, and examples of pork value chains. A value chain represents all aspects that move a product from the farm to the consumer. The conference also featured value chains in



The potential for Iowa-grown products

"...Family farmers are a respected symbol. Most people are two generations removed from a farm and they love to hear farm stories. Here's a marketing relationship that makes the farmer an integral part of the product."

— Amy Barr, communications consultant from Colorado, addressing the pork niche marketing conference in September

poultry and produce that might serve as models for existing or emerging pork value chains.

On the following day, more than 30 pork producers, processors, distributors, retailers, agency representatives and ISU faculty rolled up their sleeves and went to work. The goal of the workshop was to determine key challenges in Iowa for specialty pork value chain and direct marketing enterprises. Also attending the session, organized by the Leopold Center and Practical Farmers of Iowa, were educators and representatives from commodity organizations, nonprofit and government agencies that could support producers and other direct market groups that would be part of the supply network.

Top items on their task list are:

- technical assistance for producers in modifying facilities to meet standards for alternative pork production systems,
- research to determine how many differentiated pork value chains (natural, organic, hoop-house raised) could be profitable in Iowa,
- research and technical assistance for carcass utilization, labeling, infra-

structure and availability of feed, and

- additional research about herd health in alternative pork production systems.

They also discussed possible development of a new pork niche market trade association and ways to increase cooperation among groups. At a follow-up meeting in November, participants formed subcommittees to determine possible activities in the areas of credit and investment, business plans and feasibility studies, promotion and certification issues, and herd health issues.

The group agreed that cooperation would be their first order of business, and that a number of existing statewide efforts already are underway to develop differentiated pork value chains. But, as one participant put it, "We need a better screen to determine if farmers receive tangible benefits from participating in these value chains." Developing such a screen will be an important part of the Center's marketing initiative.

Conference handouts are available for \$10 from Sherry Hoyer, Iowa Pork Industry Center, 109 Kildee, ISU, Ames, IA 50011-3150, (515) 294-4496.

Nominations sought for new Spencer Award

The Leopold Center is seeking farmers, researchers and educators who have helped sustain and support Iowa's family farms to apply for the 2002 Spencer Award for Sustainable Agriculture.

The new award recognizes an individual or group that has made a significant contribution toward the ecological and economic stability of mainstream family farms in Iowa. Contributions can be practical improvements in a family-owned farming operation, research projects, or educational activities and other work that have improved a family-owned farming operation.

The Spencer Award honors the beliefs, innovations and stewardship of Norman and Margaretha Spencer, who farmed near Sioux City for 40 years. It is funded by a \$20,000 endowment from the Spencer family, who asked that the Leopold Center administer the award.

The 2002 award includes a \$1,000 cash prize. Candidates can apply for the award or be nominated by someone else.

Candidates will be evaluated according to the following criteria:

- the candidate has made a significant contribution that influences the ecological and economic stability of

- mainstream family farms in Iowa;
- the achievement represents significant research, technical or practice advancement or education, and
- the candidate has demonstrated a continuing commitment to the sustainability of mainstream family farms.

Award guidelines and a nomination form will be available after January 1, 2002. For more information, contact Laura Miller at the Leopold Center, (515) 294-5272, or check the Leopold Center web site, www.leopold.iastate.edu. Application deadline is March 30, 2002.

A great way to meet Leopold

A Sand County Almanac: Illustrated Edition

Aldo Leopold; photos by Michael Sewell
Oxford University Press, 2001
192 pp., \$35

People who admire Aldo Leopold for his wonderfully descriptive essays and thought-provoking ideas about conservation will be thrilled with a new illustrated edition of *A Sand County Almanac*.

More importantly, people who've never heard of Aldo Leopold will want to get to know him better after they pick up this 192-page coffee table treasure.

For the first time, Leopold's essays on the seasons at his Wisconsin farm are illustrated by more than 80 full-page color photographs by Michael Sewell. You see an upland plover stretching its wings, the delicate spring blooms of the draba, and the smoky gold of tamaracks in October. There also are sand hill cranes, prairie chickens in mid-dance, and migrating geese.

Leopold's Sand County essays have always appeared with far less colorful artwork. In 1947, Leopold corresponded with Charles Schwartz, an illustrator for the Missouri Conservation Commission, to develop sketches of the plants and animals described in a series of essays he was preparing for publication. Leopold died of a heart attack a year later, but his family continued to work with Schwartz and to find a publisher. The book was released in 1949, a simple collection with black-and-white drawings inserted within the text and, at most, an occasional full-page sketch.

In the 2001 edition, Sewell has captured broad views of the Wisconsin landscape that Leopold loved, as well as great wildlife shots of the animals and plants that live there. This California-based photographer is well qualified to depict Leopold's inspiration and musings. Sewell's work has been published in *National Geographic*, *Audubon*, *Sierra Club* and a variety of leading national wildlife publications and calendars.

All photographs for this two-year

project were taken in and around the Leopold Memorial Preserve. In fact, Sewell and naturalist Kenneth

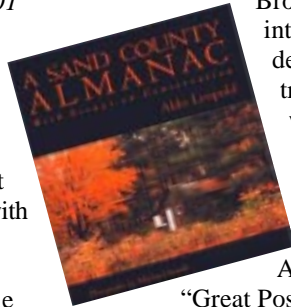
Brower (who wrote the introduction) took up residence in "the shack," traipsing the grounds with their own tattered copies of *A Sand County Almanac*.

The result is a journey very close to Aldo's footsteps. In the "Great Possessions," essay, for example, Leopold wrote about getting up at 3:30 a.m. to listen to the daily "bird-chorus." Sewell chose a pre-dawn image of "the shack" for this essay, taken at exactly 3:30 a.m. The next page follows with a photograph of Leopold's pipe, binoculars and field notes.

The book design by Sewell's wife, Denise, also lends authenticity and intimacy. Leopold's careful signature is used in the Foreword. Endcovers show Leopold's hand-edited and dated manuscripts. The essays themselves have been set in an easy-to-read typeface, and most topics fit easily on a single page.

People familiar with Leopold's works will see that 17 essays from the 1986 edition have been omitted in the latest edition. Absent are all but the Marshland Elegy from Part II (probably because they deal with other parts of the country) and the first three essays in Part III. All 23 essays that outline a year in the life of the Leopold land are included in this edition, plus what have probably become Leopold's most-quoted writings about the need for a land ethic.

To some, *A Sand County Almanac: Illustrated Edition* may be simply a nice book with beautiful photographs, which isn't a bad introduction to Aldo Leopold. But once people read what Leopold had to say, they'll never look at the land community "and all its fellow members within it" in the same way again. — Laura Miller



Kirschenmann receives 7th Generation award

The Center for Rural Affairs and the Consortium for Sustainable Agriculture Research and Education have named Leopold Center director Fred Kirschenmann as their 2001 recipient of the Seventh Generation Research Award.

He received the honor in October at the annual meeting of the Tri-Societies (American Society of Agronomy, Soil Science Society of America and Crop Science Society of America) in North Carolina.

The award highlights innovators in agricultural research whose work furthers sustainable food and farming systems that are practical, productive, and environmentally sound. It is named after the philosophy and tradition of the Iroquois people and other North American tribes to plan current activities (agriculture, hunting, fishing) with seven generations (150 years) of beneficiaries in mind. Kirschenmann is the second recipient of the award.

Kirschenmann came to the Leopold Center in July 2001, and is still involved in managing his family's 3,500-acre North Dakota farm. The farm is a natural prairie livestock grazing system that combines a nine-crop rotation of cereal grains, forages, and green manure. It has been used in a number of research studies and has been headquarters for Farm Verified Organic, an internationally recognized organic certification agency that Kirschenmann helped found and was president of for 10 years.

In the nomination, Kirschenmann was commended for the way he has "brought together practical needs for a more ecologically-friendly agriculture, academic needs for interdisciplinary research strategies, and national needs for sustainable economic policies that strengthen the entire food and agriculture system."

Established in 1973, the Center for Rural Affairs is a private, nonprofit organization located in Walthill, Nebraska.

Learn more about Aldo Leopold's ideas and family life at "the shack" in an interview with his oldest daughter, Nina Leopold Bradley. *A Sand County Almanac* was selected as a Midwestern favorite on Storylines Midwest, a radio project of the American Library Association and Michigan Public Radio. The program aired November 18, but can be downloaded at the following web site: <http://michiganradio.org/storylines.asp>.

Values-based marketing: *Selling steak with a sizzle and a cause*

Values-based marketing, an appeal to certain values or causes to sell a product, has been a key to the success of Ben and Jerry's ice cream and Stonyfield Farms yogurt, among others. This marketing strategy promises even more opportunities and successful ways for farmers and local food processors to sell their products.

June Holley, president and founder of the Appalachian Center for Economic Networks (ACEnet), shared how her organization has used cause marketing to promote food products in southeastern Ohio. She presented a seminar at Iowa State University in October while on campus to discuss the Leopold Center's marketing initiative.

"Research shows us there are lots of people who want to support sustainable economies and farms," Holley said. "The problem is how to link these people to products."

Mom-and-pop operations

Solving this problem is key to the mission of Holley's organization: to bring people together in the economically depressed rural area of the Ohio Appalachians to create jobs and other opportunities for employee-owned businesses. In the food sector, ACEnet staff members provide basic services that "mom-and-pop" operations need to start and expand, including access to loan and venture funds, financial planning assistance, and connections to industry experts. The organization also operates a community kitchen, food processing and training facility, and a storefront operation to test-market new products.

'Food We Love' campaign

A current ACEnet project is a new Food We Love™ brand that features high quality, specialty products from locally grown ingredients. Products that may be sold under the Food We Love™ label include bread, jams, salsas, juices and various condiments.

Holley said that support of regional

brand foods often centers on values.

Customers know the producer and most advertising is by word-of-mouth. She encouraged entrepreneurs to tap into local networks by being part of festivals and other events, selling products at farmers' markets, and working with influential people in the community "who care about what you stand for."

"People really want community," she explained. "There's been a rapid shift

among large groups of people who are tired of buying just so much stuff and want something that relates to their values, and they're willing to pay for it."

Target unique high-end products

Holley advised growers to think about unique, high-end products, such as organic blueberry preserves, pawpaw chutney and pickled asparagus, where the profit margin is higher than it would be for standardized products. Opportunities also exist in organic, gourmet, natural and vegan niche markets of the specialty food industry.

Holley came to Ohio University as a sociology professor in 1981. In 1986, she opened ACEnet in an office over the campus bookstore. It was patterned after trade associations she had seen in northern Italy that brought together many small family-owned enterprises involved in one aspect of the clothing industry.

ACEnet also operates Foodnet, an international listserv for food and farm businesses, and Food Ventures web pages featuring a searchable market database and other information. With a grant from the U.S. Department of Commerce, Holley developed the *Collaborative Cause Marketing Handbook* that outlines a strategy for a regional brand and marketing program. In 2001, Ms. Foundation published *Accessing Lucrative Markets*, co-authored by Holley and Anna Wadia.

More information is available by contacting ACEnet, 94 Columbus Road, Athens, OH 45701; 1-888-4-ACENET, or on the web at www.acenetworks.org.



NEWS & NOTES

The Leopold Center is a partner with Iowa State University, the University of Maine and Michigan State University in a new USDA-CSREES Initiative for Future Agriculture and Food Systems (IFAFS) grant to study the opportunities for reintegrating crop and livestock systems in agriculture. The goal of the project is to assist farmers in Iowa, Michigan and Maine in developing and adopting integrated crop and livestock farming systems that reduce costs, improve environmental quality, increase market opportunities and increase profits for small and midsize family farms. Project work will be conducted on both commercial farms and university facilities. Other Iowa partners are the USDA National Soil Tilth Laboratory, Practical Farmers of Iowa and ISU's departments of agricultural and biosystems engineering, agronomy, economics and sociology.

* * *

A Waterloo restaurant has been buying a majority of its meat and produce locally after being involved in a food system project funded by the Leopold Center. From 1998 through 2000, Rudy's Tacos purchased nearly \$350,000 of chicken, beef, pork, onions, peppers, tomatoes, cheese, tortillas, beer and black beans from local producers. When asked why, the owner listed four reasons: superior quality and freshness, desire to support local farms and other locally owned businesses, the sense of community that comes from working with local farmers, and the importance of knowing where food comes from and how it is grown.

* * *

A new 16-page color bulletin offers ideas to farmers who want to successfully produce pork on a small scale and preserve their independence in the face of the consolidating hog industry. *Profitable Pork: Alternative strategies for hog producers*, published by the USDA's Sustainable Agriculture Network (SAN), is available online at www.sare.org/bulletin/hogs. The bulletin explores raising swine in deep-straw bedding, hoop structures and in pastures.

This pig producer turns a profit

Diners at Alice Waters' world-famous Chez Panisse restaurant in Berkeley, California probably know more about how Dennis Abbas raises pigs than do his Franklin County neighbors. But that's okay with him.

After 25 years, Abbas has found a comfortable niche. He pasture farrows 600 to 800 pigs every year, finishing them in two hoop buildings he built four years ago. He doesn't use growth hormones or antibiotics, or feed animal by-products to his pigs.

As a result, his animals qualify for a \$6 per hundredweight premium offered by Niman Ranch Pork Company, or about \$15 for every animal that Abbas markets. The Iowa-based firm, managed by Iowa hog producer Paul Willis of Thornton, purchases about 1,500 head every week. The hogs are processed by Sioux-Preme Pack in Sioux Center and shipped fresh by truck to California where they are used by chefs at a number of upscale restaurants. Some also are shipped to East Coast supermarkets.

Abbas is one of the 150 producers, mostly from Iowa, who are part of the Niman Ranch network. Niman Ranch pork recently was featured in the *New York Times* and *San Francisco Examiner* magazine, and in national culinary publications including *Saveur*, *Bon Appetit* and *Food and Wine*.

All of which leaves Abbas unfazed. "I just love pasture farrowing," he says. "I love to be outdoors so I know this is for me."

He got started about 10 years ago, when a friend sold him his first group of sows for breeding.

"I thought it would be a lot of work and I was worried about hogs chasing me out of the field," he said. "I guess the meanness has been bred out of these pigs because they're quite gentle. Handling the manure is a



Niman Ranch producer Dennis Abbas enjoys raising pigs outdoors. His animals are shipped to both coasts.

breeze – the pigs spread it themselves."

In November, Abbas moves the young pigs to low-cost hoop buildings located nearer to the house. He uses large round bales of oat straw and cornstalks for bedding. Decomposition in the bedding keeps the pigs warm in unheated buildings, even during Iowa's record cold winter a year ago, he said.

"When I needed more room a few years ago I looked into large, curtained hog units but that's a different way to go," he said. "Hoops are low in cost so they can sit empty a few months of the year. And if for some reason I didn't want to raise pigs anymore, I could use them for other things."

What Abbas calls "this pig project" also works well with the organic part of his farming operation. He raises corn, soybeans and small grains conventionally on 320 acres, and has another 160 acres certified organic, some of which is going into its seventh season.

"I really enjoy the organic way of raising crops, it's almost addictive at times," he says. "The pigs provide fertilizer for the crops and extra income for me."

New guidelines for educational events

Guidelines for the Leopold Center's new educational events program provide limited funds to support Iowa-based outreach activities.

A written request must outline objectives and expected outcomes for the event, and arrive no later than 30 days prior to the event. The event also must relate to one or more of the Center's ecology, marketing and policy initiatives. Applicants can be from any Iowa nonprofit organization and/or educational institution.

The educational events program replaces the Center's eight-year-old quarterly conference and workshop program that was suspended after the Spring 2001 cycle due to budget cuts.

Most of the Center's outreach and educational funds will support conferences, workshops and other programs that are planned by Center staff and are part of the Center's three initiatives. The Center's initiatives focus on:

- ecologically friendly systems less dependent on purchased farm inputs,
- markets for food, fuel and fiber that support and are linked to resilient local communities, and
- new food and agriculture policies that are community- and farmer-friendly.

Jeri Neal is directing activities on the ecology initiative, Rich Pirog is working on the marketing initiative, and Mike Duffy leads the policy initiative. Contact the Leopold Center, (515) 294-3711, for more information about the educational events program.

Book highlights farmers

Dick and Sharon Thompson of Boone are among the 48 U.S. farmers profiled in a new CD-ROM, book and web site, *The New American Farmer: Profiles of Agricultural Innovation*, produced by the USDA's Sustainable Agriculture Research & Education (SARE) program. It is available for \$10 from Sustainable Agriculture Publications, 210 Hills Building, University of Vermont, Burlington, VT 05405, (802) 65600484, or on the web at www.sare.org/newfarmer.



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Letter

HIGHLIGHT EVENTS

The city-to-country link

The Leopold Center is working with several organizations to host meetings in February in several Iowa communities. The purpose is to understand urban and suburban concerns on environmental and agricultural issues, and explore ways that the Leopold Center can work more creatively with these audiences.

Local partners will help coordinate events. Watch the Leopold Center's web site and area newspapers for dates and locations.

These events continue the Center's "community conversations" about a new vision for Iowa agriculture. All events are sponsored by a grant from the Cavaliere Foundation, located in Madison, Wisconsin.

Poultry producers interested in niche markets for differentiated products are invited to attend a half-day program sponsored by the Leopold Center and Iowa State University Extension.

The program, "Creating value chains for niche poultry markets," will bring together people involved in the production, processing, distribution and marketing of organic, pasture-fed, free-range, antibiotic-free or other specialty poultry to discuss opportunities and challenges shared throughout niche poultry value chains. Breakout sessions are planned for direct marketing and networks to supply specialty markets. Contacts: Rich Pirog, (515) 294-1854, or Diane Mayerfeld, (515) 294-7836.

Following the poultry session, participants are invited to attend the Practical Farmers of Iowa (PFI) Annual Meeting and Winter Workshops. The event opens with a Friday evening family gathering, followed by a Saturday program of workshops and Iowa Bounty buffet lunch. Keynote speaker will be Mark Ritchie, president of the Institute for Agriculture and Trade Policy in Minneapolis. For more information, contact: Jody Larson, (515) 733-2411, jodylarson@yahoo.com.

Creating Value Chains



for Niche Poultry Markets

Friday, January 18, 1-4:30 p.m.

Gateway Center, Ames

Cost: \$10

Reserve a space by noon, January 11.