

# Letter

A NEWSLETTER OF THE LEOPOLD CENTER FOR SUSTAINABLE AGRICULTURE

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Photo courtesy Successful Farming

Iowa State University agricultural engineer Mark Hanna (right) helps student Paul Boyd adjust anhydrous ammonia equipment. Hanna has a three-year competitive grant from the Center to determine the causes of uneven application and possible designs to improve flow and control variability. The project was featured in the August issue of *Successful Farming* magazine.

*Year-long visioning process begins*

## Center eyes the future

By Laura Miller, Newsletter editor

U.S. agriculture needs a vision for the 21st century that is economically and politically powerful, emotionally compelling and easily understood in supermarkets as well as local elevators and coffee shops. And Iowa is the place to help create that vision.

That's just one of many messages heard during a one-day forum convened by the Leopold Center in July on the Iowa State University campus. More than three dozen researchers, educators, farmers, agribusiness people and leaders in sustainable agriculture participated. The forum marks the beginning of an extended discussion that director Fred Kirschenmann hopes will result in a ten-year plan for the Leopold Center.

"We want to honor the past work of the Center, but it's

**DISCUSSION**

(continued on page 8)

*Midwestern leaders in sustainable agriculture gathered in July to talk about the 'big picture' in agriculture. Read a summary of the day's keynote speakers on pages 6, 7 and 8.*

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## Leopold Center, CHEEC continue air quality study near hog facilities

*EDITOR'S NOTE: Last fall the Leopold Center Advisory Board discussed public perceptions regarding air quality in and around swine housing units. The board approved funds for a 15-month collaborative project that would begin to measure airborne contaminant concentrations and exposures in and around hoop buildings and conventional confinement facilities.*

*Here's a project update provided by researchers Dwaine Bundy, Amy Beatty, Wendy Powers, Peter Thorne, Peter Weyer and Terri Pearce. Work is funded by the Leopold Center, its sister institution, the Center for Health Effects of Environmental Contamination (CHEEC), and the University of Iowa Office of the Vice President for Research.*

Gases such as ammonia, hydrogen sulfide and volatile organic compounds are present in all types of swine facilities. Airborne particles, also present in swine production, may include infectious and non-infectious viruses, bacteria, fungi and parasites; products of microorganisms such as endotoxins; and aeroallergens of animal, plant or microbial origin.

Interest in characterizing these exposures has brought researchers together from the ISU departments of agricultural and biosystems engineering and animal science (Bundy, Beatty and Powers) and the occupational and environmental health department at the University of Iowa (Thorne, Weyer

**AIR QUALITY**

(continued on page 4)

**Jim Russell**, an Iowa State University animal scientist who heads the Leopold Center's animal management issue team, received a merit award from the American Forage and Grassland Council in July during the group's annual meeting. The award acknowledges Russell's research on year-round rotational grazing, on-farm demonstrations and other activities as leader of the Center-funded initiative during the past eight years.

\* \* \*

Research by Iowa State University entomologist **John Obrycki** and **Laura Hansen Jesse** again became part of a national discussion on the effects of genetically engineered corn pollen on the monarch butterfly. Results of their work were published in the Internet edition of the ecological journal *Oecologia* in late August. Obrycki is principal investigator for several Leopold Center grants, including a monarch/milkweed survey just completed and a two-year monarch project that began July 1.

\* \* \*

The Iowa Environmental Leadership Institute (ELI) has received a one-year grant from the Resource Enhancement and Protection (REAP) program to investigate whether professional coaching is an effective tool to develop leadership capacity within grassroots environmental, natural resource and sustainable agriculture educators. ELI has developed a brochure and application procedure for interested applicants. For more information, contact Mary Carpenter at 515-277-5099, or send e-mail to <mary@boddymedia.com>. Applications will be accepted until October 4.

\* \* \*

Leopold Center education coordinator **Rich Pirog** was part of a panel discussing local food systems for 300 people who attended the National Rural Development Leadership conference in Wyoming in August. He

discussed the potential for rural communities to develop local markets with churches, hospitals, schools and nursing homes.

\* \* \*

The *Leopold Letter* has been commended for its "From the Field" feature on Iowa farmers. Agricultural Communicators in Education (ACE) presented a bronze (third-place) award in writing to newsletter editor **Laura Miller** during its international meeting in July. In the same competition, two Leopold Center projects managed by Center editor **Mary Adams** were commended for their design. Julie Mangels of Juls Design, Ankeny, received silver (second-place) awards for the 1998-99 *Leopold Center Annual Report* and a

poster celebrating the 50th anniversary of *A Sand County Almanac* that the Center mailed to all Iowa libraries last fall.

\* \* \*

One new and one revised **impact sheet** that summarize the work of the Leopold Center are now available in both electronic and printed form. The impact sheets—*Animal Management Issue Team* and *Regional and local food systems*—outline current and recently completed projects and provide contact information. To view the impact sheets or download a printable version, go to the Center's Web site, <www.leopold.iastate.edu>, and look under interdisciplinary research. Printed copies also may be requested by calling the Center at (515) 294-3711.



LEOPOLD CENTER

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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.

**Editor:** Laura Miller



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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.

## It's time to continue our journey . . .

Thomas Jefferson reminded us that the Constitution of the United States should be rewritten every 19 years. He believed that every new generation needed to determine its own rules of governance, not live by the rules of past generations. The world, he said, “belongs to the living, not to the dead.”

Of course, Jefferson did not mean that we should disregard the past, only that we not become imprisoned by it. His insight reminds us that every institution needs to periodically review its mode of operation if it is to continue serving people.

We are all poised between memory and hope. Memory provides us with perspective—the basis for making judgments about the future. Hope provides us with incentive—the motivation to engage the challenges and opportunities of the future.

I have been given the task of leading the Leopold Center into the next decade. It is an awesome responsibility. The challenges facing agriculture and the environment are overwhelming, but so are the opportunities. I am aware that the Leopold Center is in a unique position to face those challenges and take advantage of those opportunities. The Center is located in Iowa, the heartland of American agriculture. It has in its short history developed an international reputation for sound, careful work. And it has a mandate from the Iowa Legislature to promote a sustainable agriculture guided by the principles set forth by Aldo Leopold. A better combination of circumstances for affecting the future course of agriculture hardly could be imagined.

But the task will not be easy. We do not all agree on the course we should take to fashion a brighter future. This is to be expected because we are in the midst of major cultural shifts. We have not yet moved beyond the industrial era. At the same time, we are in the thick of the information

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era as we enter a new biological era. There is no agreed-upon collective memory to inform our judgments and no collective vision to guide our aspirations for the future.

In an effort to determine how the Leopold Center can best serve the people of Iowa in the coming years, the Advisory Board last April began a process of reviewing the Center's work. On July 21, the Center hosted an all-day forum to get a clearer perspective on “big picture” issues in sustainable agriculture. Part of this newsletter is devoted to what we heard during that convocation.

In the months ahead, we will develop an outline for the Center's future operations that is consistent with our mission and mandate, and conduct listening sessions throughout the state to obtain feedback from the citizens of Iowa. Subsequently, we will fashion a course of action for the Center for the next decade, using our collective memories to give us perspective and hope to give us the incentive to carry out these plans.

We will keep everyone informed

through the *Leopold Letter*, our Web site, and other forms of communication that seem appropriate. We invite everyone to become part of the process. We already have received thoughtful comments from the July 21 meeting.

In the Spring 1999 issue of the *Leopold Letter*, Dennis Keeney reminded us of the following:

*Iowa is a young land and the Leopold Center is a young organization. Both have much unfinished business.*

How true! Implicit in his comment is the fact that if the Leopold Center is successful in fulfilling its mandate, we will put ourselves out of business. I can think of no better goal for the Leopold Center than to foster an agriculture that is so “economically viable,” so “ecologically sound” and so “socially just” that the Leopold Center and other sustainable agriculture centers elsewhere are no longer needed. Business finished!

*Dennis Keeney*



**Paul Johnson, who once directed the state's department of natural resources, discusses future directions in agriculture with Fred Kirschenmann during lunch at the July 21 forum.**

# Study: Confinement, hoops show variable air levels

**AIR QUALITY** (continued from page 1) and Pearce). The plan is to investigate and compare levels of particulate matter and gases that may occur in total slatted and deep-bedded systems.

## Two central Iowa sites chosen

The project, currently in progress, measures exposures at two central Iowa pork production sites during each season of the year. One site consists of a four-room, deep pit, mechanical-assisted finisher that is naturally ventilated. The second site has three hooped buildings. Two sampling seasons have been

completed so far (spring and summer), and researchers are preparing for the fall and winter sampling.

Preliminary findings show similar values in both types of systems. The concentration levels of ammonia, hydrogen sulfide and dust concentrations are lower than the accepted limits for workers. While concentrations of airborne bacteria and endotoxin also were similar, some variation was observed between levels measured either in the buildings or downwind from them.

## Additional work planned

Investigators hope to collect additional samples upwind of the sites to determine if the variability is due to cropping systems and/or livestock systems.

The results of this study will help professionals understand exposures unique to agricultural settings. They also may provide guidance on health effects for farmers who work in and around either hoop structures or conventional confinement buildings.

## BOOK REVIEW

# America's champion of family farms

## Willard Cochrane and the American Family Farm

Richard A. Levins [foreword by John Kenneth Galbraith]  
University of Nebraska Press, 2000  
128 pp., \$30.00

Packed in this small book is a warm and entertaining biography of one of the great living icons of agricultural economics and lifelong champion of the family farm. The progressive movement in agriculture was perhaps at its peak when Cochrane served as agricultural advisor to President Kennedy, and the flyleaf presents reviews by many of the past and current leaders in agricultural policy.

Levins cleverly traces the evolution of agribusiness during Cochrane's career through the growth of four giant corporations: Cargill, Pioneer (recently acquired by Dupont), John Deere and Monsanto. Early in his professional life, Cochrane questioned the common belief that supply and demand for farm products would adjust itself through price mechanisms. Later, as an economics professor, he wrote the classic, *Farm Prices: Myth and Reality* (University

of Minnesota Press, 1958), that defined his liberal viewpoint vis-à-vis the prevailing conservative thinking led by Ezra Taft Benson.

Cochrane was the logical choice as agricultural adviser to Kennedy during his 1960 Presidential campaign, and subsequently as director of agricultural economics in U.S. Department of Agriculture from 1961 to 1964. During this time he established the Economic Research and Statistical Reporting Service and helped Agriculture Secretary Orville Freeman establish the Food Stamp Program.

The love and respect that the author, Dick Levins, has for his former colleague is evident in the heartwarming discussions of Cochrane's personal life including his long marriage to his wife, Mary. The book ends with a poignant chapter titled "Heartland" that retraces Willard's visits to his maternal grandfather's farm near Greenfield, Iowa. Levins drives Cochrane to the farm and accompanies him on visits with distant relatives and the abandoned farmstead. One can readily feel the depth of his sadness and anger at loss of the farms and farmers to industrialized agriculture.

It should come as no surprise that

Cochrane is critical of the direction of today's agriculture and agricultural policy. He feels that the benefits of commodity-based price and income support programs accrue to agricultural corporations and large producers. He has concerns for the move toward globalization, the threats of global warming, soil erosion, chemical pollution and agricultural biotechnologies. He believes in taking advantage of marketing opportunities, but feels farmers should be protected against wildly fluctuating prices. Above all, he remains a champion of the family farm and rural communities.

The thoughts of Willard Cochrane deserve wider dissemination in the halls of Congress and the federal and state agencies that influence farm policy. Above all, sustainable agriculture proponents should carefully examine his views as the debates begin on the next farm bill. This book is a start.

At the time of this writing, Willard Cochrane is alive and well, and few can keep up with his intellect, still sharp at age 86. — Dennis Keeney, emeritus professor, Iowa State University

## Duffy rejoins Leopold Center with expanded duties

Michael Duffy, professor of agricultural economics at Iowa State University, has been appointed as the half-time associate director for the Leopold Center for Sustainable Agriculture.

Duffy's three-year appointment began September 1, and in his new role at the Center he will be responsible for overseeing the Center's research initiatives on organic crop production and hooped hog structures. In addition, Duffy will conduct his own research program focusing on various aspects of the economics of sustainable agriculture, an area in which the Center has an ongoing interest. He will fill in for the director in his absence and will represent the Center in various capacities, on and off campus.

Duffy was previously affiliated with the Center for several years and has been

involved in research on a number of the Center's competitive grants. He was asked to return to the Center staff by Fred Kirschenmann, the Center's new director.

In commenting about Duffy's appointment, Kirschenmann said he was pleased. "Sustainable agriculture, if anything, has to be economically viable, so having an economist on staff is essential," he said. "Having an economist like Michael, who looks at economic performance from a whole systems perspective, is critical. In addition, Michael relates easily with farmers, another skill that is vital. Ultimately, if we are going



Michael Duffy

to change agriculture, it has to be changed on the farm by farmers."

Duffy also said he was happy to be back at the Center. "I enjoyed working with Dennis (Keeney) and I am looking forward to working with Fred. Entering a new century with a new director is really exciting. There is so much that can be done, but we have to have imagination and the will to look at things differently. Everything changes, or it dies; this is no different for the Leopold Center, U.S. agriculture, or us as individuals."

Duffy will continue to serve in the ISU economics department and work with ISU Extension farm management specialists. He is also professor-in-charge of the ISU Beginning Farmer Center, and conducts the yearly Iowa land values poll.

## Interim director offers a look back at the Center

There are two broad views of agriculture, one being conventional and the other sustainable. When these two views clash, the result often is contrary to each view—an agriculture that is both unsustainable and unconventional—which is acceptable to no one. Instead, we need to incorporate both views to create an agriculture that is both sustainable and conventional.

In reality, sustainable and conventional agricultural practices carried out by most farmers have more similarities than differences. Conventional agriculture has evolved, thanks to the use of science and technology that help us understand basic processes, from the biology of soybean plant development to the chemistry of soil fertility. The legislative mandate to establish the Leopold Center also emphasized sustainable agricultural practices based on scientific research.

Conventional agriculture becomes unsustainable when fields extend too close to a stream, or farmers apply too much fertilizer (chemical or manure) to manage their risks. Yet this might not be conventional agriculture, but simply the result of uninformed decision-making. On the other hand, the refusal to use therapeutic antibiotics to control an infectious disease outbreak in livestock is not a sustainable agriculture practice but arrogance. The future of agriculture depends on science and information from well-controlled laboratory experiments as well as astute observations by farmers.

The new Leopold Center director, the staff, advisory board members and others have begun a process to envision

*In reality, sustainable and conventional agricultural practices carried out by most farmers have more similarities than differences.*



Allen Trenkle

the future for the Center. Based on my experience as a board member, interim director of the Center and long-time faculty member at Iowa State University, I think we need to first look at the needs of agriculture in the future, and critically evaluate progress the Center has made. The Center's most successful efforts have been in areas where a coalition of farmers and university personnel has worked on a problem. Farmers bring their observations and perspectives to the table, and university personnel bring their expertise in conducting sound research. University personnel need to leave their lectures behind and listen more than they talk, while farmers must bring open minds for new ideas.

The Center can use its experience in creating an environment for productive dialog between farmers and university researchers. We need to bring people with diverse agricultural views together so we can evaluate past and future practices, develop new systems and bring about new policy. If this happens, sustainable agricultural practices truly will become a conventional thing. — Allen Trenkle, Interim director

**Adding fuel to the fire . . .** More than two dozen public and private organizations, nearly 100 cooperating producers in the Prairie Lands Bio-Products growers association, and Alliant Energy have joined forces to develop

switchgrass as a commercially viable source of renewable fuel. The sponsor, Chariton Valley RC&D, plans the first co-fire test later this fall. Look for details in the winter *Leopold Letter*, or visit the project web site at <[www.cvrcd.org](http://www.cvrcd.org)>.

# What does the future hold for agriculture?

The Leopold Center looks into the crystal ball.

Participants in a July 21 discussion forum included (from left) Mike Duffy, Karl Stauber, Cornelia Flora, Fred Kirschenmann, Jean Dye Gussow, Bill Heffernan, John Gardner and Dick Levins. On these two pages is some of what we heard.



## Looking at the big picture Karl Stauber

We currently are without a vision that will lead American agriculture forward into the 21st century. This is a key issue for the Leopold Center, Iowa State University and land grant universities, as well as the farmer and the consumer. For agriculture to be the base of strong communities, it must have a vision that serves a significant majority of the community. *So where do we get the new vision for American agriculture?*

1. **Aldo Leopold's writings.** Leopold changed drastically in his life from his early days in the Southwest territories to his writing on his "Sand County" farm. He saw transformation, connection and ecological responsibility as being the basis of our relationship in nature. Can we do that?
2. **Our country's new suburban majority.** In the 1992 Presidential race for the first time, a majority of votes in the general election were cast in suburban districts. Our vision for agriculture must be understandable by the suburban majority in this country, not just our allies on key Congressional committees.
3. **The role of science and the public good.** There is a myth in the United States that public scientists are neutral. Land grant universities were founded on the belief that knowledge would create a public good, or that they were to be advocates of a public good, whether it be elimination of rural poverty, supplying the Industrial Revolution with food and skilled people, or ending hunger in America. So what do we want the public sciences to advocate today?
4. **Sustainable agriculture practices.** Individual farmers have been able to make sustainable agriculture work in their own enterprise for a long time. The tougher question is how to offer incentives for sustainable agriculture at a watershed or landscape level. We don't need more on-farm research; we need more political research and better public policy.
5. **The mass consumer.** Restaurants in Washington, D.C., and other big cities have made it their business to offer meals prepared from locally grown, sustainably raised foods. But for sustainable agriculture to truly survive, this must be the business strategy for McDonald's as well as farmer-conscious, high-end, white tablecloth restaurants.

The real challenge for the Leopold Center in this political economy is to create a bridge between traditional agriculture and entirely new audiences that include the suburban majority and the mass-market consumer. The real challenge is for the Leopold Center to lead at the "vision" level.

## An ecological view John Gardner

One of the big issues facing the ecology of agriculture and natural resources today, and in the future, will be the manner in which we develop agricultural biotechnology. It holds both tremendous promise, and also unprecedented problems ... Whether it was the ability to carry out extensive tillage of the soil or exterminate a particular pest, we've discovered that however targeted or carefully a technology is deployed, it results in unanticipated impacts upon the ecology of our agricultural system as a whole. And, far too often, we don't anticipate or recognize these unintended consequences until it is too late. A system-wide breakdown has to occur for us to be convinced that agriculture remains bound by ecological principles striving for stability and longevity. Further, it is the breakdown where government intervention usually takes place. Perhaps it is no coincidence that it took approximately 50 years of pulling a plow to create the Soil Erosion Service (today's Natural Resources Conservation Service) and 50 years of operating a sprayer to create the Environmental Protection Agency.

*John Gardner is an agronomist and associate dean of Agriculture and Natural Resources Extension at the University of Missouri-Columbia. Before coming to Missouri, he directed the Carrington Research and Extension Center at North Dakota State University and helped farmers market high-oil crambe.*

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*Karl Stauber is president of the Northwest Area Foundation, a private grant-making foundation that assists communities in reducing poverty in eight states, including Iowa. Prior to 1996, Stauber was Under Secretary for Research, Education and Economics for the U.S. Department of Agriculture in Washington, D.C.*



Keynote speaker Karl Stauber (far left) of the Northwest Area Foundation engages participants in a long-range look at agriculture.

Cornelia Flora (left) offers her perspective on rural communities.

## The consumer angle Joan Dye Gussow

When I concluded 25 years ago that we needed to re-localize our food system, I felt I needed to prove that I could eat locally in the Northeast, and still eat well. I can grow all my vegetables and much of my fruit in my 1,000 sq.-ft. garden 20 minutes north of Manhattan, but in that small space I will never feed myself. The experience of trying to do so has taught me some of the lessons we need to teach if we're ever going to have a consumer base that will support sustainable agriculture.

First, weather will matter a lot more if we eat locally. Second, people need to know they may have fewer choices if they eat locally and by the seasons.

We will never change the food system until we can change the demand end. We need to eat as responsibly as possible from as close to home as possible, and work on national policies to empower small farmers and consumers.

*Joan Dye Gussow is a long-time organic gardener and former chair of the Nutrition Education Program at Teachers College, Columbia University. She is a member of the National Organic Standards Board and author of, among other books, Chicken Little, Tomato Sauce and Agriculture (Bootstrap Press 1991). A new book about 40 years of lessons learned trying to eat more locally will be published by Chelsea Green next spring.*

## A community perspective Cornelia Flora

Rural communities, even in Iowa, really are not dependent on agriculture, nor are they likely to depend on agriculture in the future. E-commerce such as Rooster.com, makes it possible for people to have little need for local seed suppliers and implement dealers. Instead, we need to think about what agriculture does for our communities.

In Iowa, agriculture's most important product could be clean water. Had we thought of this sooner, we could have saved the City of Des Moines millions of dollars in water treatment from nitrogen runoff. We could have worked with farmers to help them produce a public good, and all those millions of dollars spent on water treatment could have gone to local farmers to do other things. Other public goods from agriculture might be clean air, reduced global warming, and biodiversity as well as food and feedstuffs. We need to start a discussion with new suburban audiences about what agriculture really produces.

*Cornelia Flora is a faculty member in the department of sociology and director of the North Central Regional Center for Rural Development located at Iowa State. This center is one of four centers that combine research and outreach for rural development, and covers 12 states, including Iowa. Flora is a leading researcher on the relationship between agriculture and rural communities.*

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— Karl Stauber

**Future of Agriculture**  
*continued on page 8.*

### More about the vision

A 10-page summary of the July 21 session is available by request from the Leopold Center. It also can be viewed and printed from the Leopold Center's Web page at <[www.leopold.iastate.edu](http://www.leopold.iastate.edu)>. The Center plans a series of meetings throughout Iowa to gather more comments. Leopold Center

director Fred Kirschenmann offered his view in a speech, "Questions We Aren't Asking in Agriculture," prepared for the Shivvers Lecture at Iowa State University September 12. The speech is available at the Leopold Center Web site or by request.

## Forum considers the future for agriculture, role for the Leopold Center

**DISCUSSION** (continued from page 1) precisely because of this good work that we are in an excellent position to look forward,” Kirschenmann told the group. “We need to ask the difficult questions, decide who we want to be, and how we can move agriculture toward sustainability.”

### Stauber offers overview

To launch the discussion, Kirschenmann asked visionary and Northwest Area Foundation president Karl Stauber to provide a “big picture look” at agriculture. Five other leaders in sustainable agriculture were asked to respond, each from a different perspective (see excerpts from their comments below and on pages 6 and 7).

The afternoon session was an open discussion among invited guests, Leopold Center Advisory Board members and Center staff. At the end of the day, speakers identified key questions or initiatives to consider.

Stauber maintains that agriculture has been industrialized to the point that many citizens do not see farmers as

producing an overall public good, only “cheap food and fiber” increasingly for a global market. Without a vision or commonly understood purpose, agriculture cannot move forward in the United States.

“Why should the consumer care about whether farmers make it or not?” Stauber asked. “We know the answer in this room, but we need to be able to sell it in a compelling way to a majority of the population.”

### An emotional connection

Jerry DeWitt, who coordinates Iowa State University Extension’s sustainable agriculture program, said past agricultural programs have dealt with practices, produce and commodities. “We need to deal with problems that make grown men and women cry,” he said. “We need to make connections and build relationships that keep men and women on the land.”

Paul Johnson, former director of the Iowa Department of Natural Resources, agreed that much of the work in sustainable agriculture falls to the private landowner. Current farm policies reward

commodity production, not stewardship, he said. “The farmer is the caretaker of the land, not just another food factory. Conservation is not just about building another terrace, it’s sharing the land with 100,000 other species. We hire park rangers to look after our land so maybe we need to hire farmers to look after creation.”

### Sense of urgency

Stauber said agriculture is ripe for change, which can begin in Iowa.

“It is important that Iowa do something, because Iowa is the center of the universe when it comes to agriculture—your history, productivity, even the political process put you at the center,” he said. “Iowa has a critical place in the American psyche.”

Kirschenmann said being a catalyst for change has always been a part of the Center’s mission. “We need to be attentive to forces already at work and be a keen observer. We want to be there at the right time, bring people together and be part of the activities that provide momentum for change.”

Future of Agriculture *continued from previous page*

## A changing structure Bill Heffernan

Globally, five firms hold the intellectual property rights to most of the agriculturally-related biotechnology. A relatively few dominant firms are making the major decisions in food production at all stages. Some of these companies talk about needing only 20,000 to 30,000 farms in the United States to provide for this globalized market. That is an average of only 500 per state and most of these farms will be operating under contracts.

Do we need farmers in this country? According to some economic models of agriculture, we do not. Corporations are skilled at transferring the environmental costs of doing business from themselves to the public, which always helps keep the price of the product more reasonable to the consumer. We need to make the case that independent farmers are stewards of our environment and they take care of our natural resources. If we cannot justify their existence in this way, then perhaps agriculture needs to be treated like any other industry.

*Bill Heffernan is professor emeritus of rural sociology at the University of Missouri-Columbia. Over the past several decades, he has studied concentration of ownership within the food industry and is one of the nation’s leading authorities on the changing structure of agriculture.*

## An economic view Dick Levins

The future of agriculture comes down to economic power. It’s no longer a question of becoming more efficient or smarter at what you do, having a vision when someone else doesn’t, or being right when someone else is wrong. The hand of large corporations is more visible in agriculture than it has ever been before. The development of genetically modified organisms (GMOs) is a good example.

I would like to see the Leopold Center evaluate its work from the perspective of whether each step taken would increase a base of power for the sustainable agriculture community. Farmers continue to compete with each other, a sure way to keep economic power low. Meanwhile, giant corporations merge to further increase their economic power.

I would encourage us to think about two questions: One, how do you operate in this environment of power? And two, where do you find your power, or enough influential friends, to play effectively in this game?

*Dick Levins is professor of agricultural economics at the University of Minnesota. He has written a new book, Willard Cochrane and the American Family Farm (University of Nebraska Press), that looks at social and economic forces that have worked against family farming and sustainable agriculture in the 20th century.*



## Teaching and learning at PFI's youth camp

For the past three summers, the Leopold Center has helped Practical Farmers of Iowa's Field to Family project with its Iowa Youth Camp. This is no ordinary week, although participants still sing songs and tell stories around a campfire, ride horses and swim. This camp focuses on communities and the environment.

On the days I helped at the YMCA campground north of Boone, we discussed many types of communities and all the human elements we would desire in a community. There also were team projects designed to help children work together to accomplish a task. Projects included habitat work, such as sowing native prairie seed for a reconstruction project and planting willow trees along the Des Moines River to help control erosion.



Students learn about agriculture and the value of community at this unique camp for Iowa youth.



Campers also took field trips to nearby farms where they learned about local food systems and crops grown in Iowa.

Our young people need to learn about conservation issues, and the fragile life systems around us. This also is our community. In Iowa, we are economically dependent on agriculture, yet we must be able to produce those goods without endangering our other

natural resources.

Working with these campers was an honor and a blessing. As I reflect on the experience, I think the children taught me more than I actually taught them. Thanks to camp director Shelly Gradwell, and to all campers for a wonderful and rewarding experience!

— Amy Oliver, Leopold Center Summer 2000 intern

## Making the most of conservation reserves and native grasses

Under the golden rays of a late afternoon sun, 65 men and women wandered through patches of big bluestem, whose turkey-foot-shaped seedheads swayed gently at head level. These visitors were not early Iowa settlers but farmers, educators and agribusiness people who wanted to learn more about establishing and maintaining native grasses and prairie forbs on land enrolled in the federal Conservation Reserve Program (CRP).

I was able to attend one of two Native Grass Seeding Field Days in August, events supported in part by a grant from the Leopold Center's workshop and conference program. The speakers gave me—as well as other participants—lots of good ideas about what's possible for CRP ground as well as practical information about implementation.

### Prairies can be easy to establish

We strolled through experimental plots at the Southeast Research Farm near Crawfordsville, which hosted the field day with Iowa State University Extension and several other groups. Contrary to what people believe, prairies are easy to establish, according to presenter John Osenbaugh, who operates a grass seed company in Lucas. We learned the geographic origin of each variety and their benefits, including varieties that Osenbaugh recommends for fields used by hikers and hunters.

We also heard from Shawn Depp of the Natural Resources Conservation Service (NRCS), who talked about ways to improve CRP land for wildlife. He stressed the



John Osenbaugh (far left) and Greg Brenneman (far right) point out various types of native grass varieties.

importance of planting flowers, which attract insects that are a food source for chicks and migrating birds such as the bluebirds, bobolinks and wrens that pass through Iowa each spring. Much to the chagrin of some participants, Depp suggested sowing weed seeds into low-diversity areas such as brome fields, noting that the seeds of foxtail and lambsquarters are high in protein and energy.

The CRP is the federal government's single largest environmental improvement program. As of 1997, there were 1.7 million Iowa acres enrolled in CRP, and around 34 million acres nationwide. The Native Grass Seeding Field Day is a worthwhile way to complement work that's already underway.

For information, contact Greg Brenneman, Iowa State University Extension agricultural engineering specialist, (319) 337-2145.—Ellen Cook, Leopold Center Summer 2000 intern

# Producers generate ideas for additional hoop research

By **Laura Miller**  
Newsletter editor

Iowa farmers who raise pigs in hooped structures gave the Leopold Center a reality check in June: keep up the good work and don't stop answering our questions.

Members of the Center-supported hoop research and demonstration project that began in 1998 met with producers and other agribusiness people to share research results and gather opinions. The meeting will help researchers develop the next phase of work and draft important questions that they—as well as producers—want to answer.

"We like hoops. They help us with our waste management and we can be better neighbors," says northwest Iowa producer Mike Frankl. He operates 16 hoops as well as several confinement facilities. More than half of his hogs are raised in hoops.

## Hoop project enters third year

The hoop project at the Iowa State University Rhodes Demonstration Farm is one of the Leopold Center's five long-term interdisciplinary research efforts. The hoop group, headed by ISU professors Mark Honeyman and Jim Kliebenstein, has collected two years of data by from side-by-side conventional and hooped structure production systems.

Producers related their on-farm experiences, many of which confirmed findings from the Leopold Center research. Per pig production costs for the two systems appear to be about the

same. Feed and bedding costs were higher for pigs raised in hoops, while facility costs were higher for pigs raised in confinement. Hoop pigs gain quicker in the summer and slower in the winter, compared to pigs in confinement. Hoop pigs also seem to be healthier and suffer fewer stress-related problems compared to pigs in confinement.

The producers, however, were quick to add their personal perspectives.

"I admire the work you've done but the top issue is the owner's attitude," said Vic Madsen of Audubon who sells some of his pigs directly to consumers in southwest Iowa. "The work is just more enjoyable. It comes down to the farmer being able to sleep at night, getting along with his family, and having kids who want to come back to this type of occupation when they get older."

## Teach more alternatives

"I'd like to see more exposure in vocational classes at the high school level," added Wayne Fredericks of Osage. He's been keeping track of labor spent caring for pigs in his two hoops as part of a Leopold Center project. He said that students, usually taught that "bigger is better," need to learn about alternatives that are not "high-tech solutions."

Other producers had more specific questions, such as the most efficient



Pork producers who met with the Leopold Center hoop group found themselves on camera, featured on Iowa Public Television's Market to Market show about local foods. The meat served that day was raised in hoops.

building size and shape for temperature control, and ways to compost and use manure from the hoops. All producers wanted help expanding markets for hoop-raised pigs, comparative information about nutritional value and taste, and how hoops fit into an overall farming operation.

## Producer participants

Producers who participated in the discussion were Jude Becker, Dyersville; Mike Frankl, LuVerne; Tom Frantzen, New Hampton; Wayne Fredericks, Osage; Jim Hoefling, Marcus; Larry Jedlicka, Solon; Jim Krier, Ollie; Archie Kunz, Brooklyn; Don Lewis, Washington; Vic Madsen, Audubon; Paul Mugge, Sutherland; Dave Struthers, Collins; Fred Tilstra, Steen; and Dan Wilson, Paullina. Also present were Dave Stender and Terry Steinhart, Iowa State University Extension swine specialists; Rick Exner, Practical Farmers of Iowa; Marty Schwager, Iowa Pork Producers Association; and veterinarian Kurt Van Hulzen, Sac City.

## New advisory board member

Kathleen Gannon, Mingo, has joined the Leopold Center Advisory Board as a representative of Iowa's independent colleges and universities.

Gannon is director of marketing and public affairs for the Iowa Association of Independent Colleges and Universities. A native of New Hampton, Gannon also brings to the advisory board experiences on her family's grain farm. She holds a B.A. degree in English from the

College of St. Catherine and is a member of the Human Resource Recruitment Consortium, the Jasper County Compensation Board and Colfax-Mingo Dollars for Scholars. She and her husband Bill have two sons and a daughter.

Gannon succeeds Lenore Durkee, who retired last year at Grinnell College and moved to the East Coast.



**Kathleen Gannon**

## ***Bear Creek continues to attract attention***

The Bear Creek riparian buffer in Story County is a busy place! One day this past summer, members of the Leopold Center's Agroecology Issue Team participated in a tour for U.S. Congressman Tom Latham and partners in the Iowa Buffer Initiative.

It also happened to be the day that a Chinese television crew was filming the Bear Creek project for a segment on successful sustainable agricultural practices in the United States. The show, *Global Village*, will air this fall to an audience of about 150 million people. Since the project began in 1990, more than 4,500 people from 30 countries have visited the area.

Members of the issue team received the top conservation award from the Iowa Department of Agriculture and Land Stewardship's Soil Conservation Division. The award recognizes individuals for their leadership and service to the state's soil and water conservation programs. It was presented during the annual meeting of soil and water conservation district commissioners in September.

Advisory Board member Neil Hamilton, who writes an occasional Iowa View column for the *Des Moines Register*, featured the project in his August 14 piece:

*The real heroes are the farmers and landowners who live along Bear Creek. [They include] people such as Ron Risdal and his wife Sandy, who first agreed to let the ISU team use their farm for the experiment. The project has grown to stretch over five miles up Bear Creek, and many of the Risdals' neighbors have joined the effort. These landowners are leading by example. They are showing that farming doesn't have to fight nature, and water pollution and nitrate warnings don't have to be a given in modern farming. In their own way, these people embody Aldo Leopold's belief that we are part of a community with nature and the land. For their quiet leadership, we all owe them our thanks.*

## **FROM THE FIELD: Marvin Shirley**

### ***Looking beyond the fence posts***

*People who don't know Marvin Shirley well might describe him as quiet, maybe even hesitant to get involved. But it doesn't take long to discover a treasure of ideas, energy and attention to detail that gets things done for this Minburn farmer.*

Shirley has been a member of the Leopold Center Advisory Board since 1994, when three producers and one agribusiness representative were added to the board as *ex officio* members. Shirley's affiliation is with the Iowa Farmers Union, but his commitment to conservation reaches far beyond the fence posts that surround his family farm in central Iowa's picturesque Raccoon River Valley.

#### **Conservationist in many areas**

He's supervisor in the fastest growing county in Iowa—Dallas County—a position he was elected to in 1995. At his urging, the county commission initiated a year-long study of land-use policy. Now he's working to set up a program for Des Moines Area Community College students to learn about organic farming, horticultural crops, and livestock at the county's 520-acre farm near Adel.

He helps manage a 1,000-acre farming operation with his son-in-law. They raise corn, soybeans, hay and cattle, and are working toward a system of intensive rotational grazing in small paddocks. He also found time last spring to meet with all five candidates for Leopold Center director.

"I learned something from every candidate," he said. "I especially liked the idea from one candidate who said that all researchers should have to declare who would benefit from their work."

Shirley said he made time for the interviews because he wanted a director who could relate to Iowa's rural areas, especially in the southwest part



**Marvin Shirley helped restore this nature area.**

of the state. He also was concerned about a new director's need to seek funds from outside sources, a move that Shirley thinks could compromise the integrity of the Center's work. He said he sees his role on the board as one who "asks lots of questions, keeps things moving, and is practical."

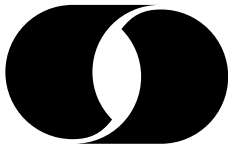
Shirley also attended the July 21 visioning session convened by the Leopold Center, which followed two advisory board meetings highlighted by considerable discussion about the future of sustainable agriculture.

"I would like to see the Leopold Center involved in policy," Shirley said. "We need to level the playing field for family farms. Leopold Center research shows that we can compete if everything is equal, but Freedom to Farm benefits only large hog lots and feedlots, and that doesn't make sense."

#### **Primary mover for restored prairie**

He joined the Leopold Center just as the 260-acre Dallas County Conservation Board's Voas Nature Area was nearing completion. Shirley had farmed the land, owned by a neighbor, for more than 20 years when he, as executor of the state, decided to enroll the property in a federal wetlands program. The restoration process took several years, but tiles have been removed and the prairie is growing again. The new nature area has attracted "an explosion of wildlife" and regular visits by local schoolchildren.

"It's turned out to be a good project," he added. "I know that's what they would have wanted."



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# Letter

## CALENDAR OF EVENTS

**October 4**—Sustaining Your Future in Agriculture workshop, Neely-Kinyon Farm, Greenfield. Contact: Kathy Rohrig, Adair County Extension, (515) 743-8412.

**November 10-12**—Tri-State Women in Sustainable Agriculture Conference, Spring Valley, Minn. (near Chester, Iowa). Contact: Stacey Brown, Women, Food and Agriculture Network, (712) 243-3264.

**November 13**—Local Food Connections, From Farm to Schools, Ames. Contact: Cathy Strohhenn, ISU Hotel, Restaurant and Institution Management, (515) 294-7549.

**November 20-21**—Iowa Forage Conference, Pella. Contact: Joe Sellers, ISU Extension, (515) 774-2016.

**January 27**—Sixth annual Local Food System conference, Iowa City. Contact: Robert Karp, Practical Farmers of Iowa (515) 232-5649 or Jan Libbey, Iowa Network for Community Agriculture (515) 495-6367.

*NOTE: All events receive partial funding from the Center's conference and workshop program, or Center staff are involved in planning or presentations.*

Ron Risdal owns land along Bear Creek in Story County and cooperates with the Leopold Center Agroecology Issue Team that continues to conduct research. Risdal brought his grandson to a fall field day at the site. For more about the Bear Creek project, see page 11.

