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The Leopold Center is encouraging new project proposals that involve farmers and producers (see page 5 for guidelines). Deadline is October 31. Questions also can be sent to: leopold-rfp@iastate.edu.

Calling for projects, partners, research

Leopold Center charts new path

After more than a year of contemplation and conversation with hundreds of farmers, educators, researchers, business people and national leaders in sustainable agriculture, the Leopold Center is issuing a call for projects and partners to support three new initiatives.

The Leopold Center's initiatives, or areas of focus, are in ecology, marketing and policy. Ideas for concepts, projects, partnerships and/or innovative research in these areas must be submitted by October 31.

"These initiatives represent a new direction for the Leopold Center that will attempt to use what we have learned about sustainable agriculture during the past 12 years to bring about

meaningful change in Iowa," said Leopold Center director Fred Kirschenmann.

Kirschenmann said it is critical that discussions about projects and partnerships begin immediately. In a series of community conversations with more than 200 Iowans last spring, there was a sense of extreme urgency to help midsize farmers and processors who are struggling to survive under difficult economic conditions.

The call for projects, partners and research replaces the Leopold Center's call for competitive grant projects, formerly issued in July. Calls for new projects were put on hold this year in

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Study looks at water quality issues that swirl around Iowa's growing poultry industry

By Laura Miller
Newsletter editor

Iowa's newest feather in its agricultural cap – as the nation's top producer of egg-laying chickens – also comes with a predictable problem: what to do with all that manure.

According to the National Agriculture Statistics Service, Iowa's rapidly expanding poultry industry took over the top spot in February 2001, surpassing Ohio, California and Indiana in the number of egg layers. An estimated 30 million chickens produce about 7 billion eggs a year in Iowa – and about 315,000 tons of manure.

In a unique intersection of interests, the Iowa Egg Council and the Leopold Center are both supporting a



Research shows that poultry manure is a viable crop nutrient – if used with care.

multi-year research project to better quantify the impacts on water quality when poultry manure is applied on cropland as a nutrient. This project, which began in 1998, is the first publicly-funded water quality study in

POULTRY *(continued on page 10)*

How far does YOUR food travel?

A Leopold Center report on how far food travels before reaching Iowa dinner tables has logged a few miles of its own.

The report, "Food, Fuel and Free-ways: An Iowa perspective on how far food travels, fuel usage, and greenhouse gas emissions," was released in late June. Since then, the Center has distributed 750 copies of the report and responded to dozens of requests from reporters for more information. In July, lead author Rich Pirog was interviewed by Max Armstrong of WGN Radio in Chicago, whose syndicated Agri-Voice farm show goes to 86 stations.

Information from the report also will be used by several Iowa and regional groups working with community-based food systems, and by educators in college food system courses. One professor in Maine requested copies to use in an introductory humanities class for first-year students.

The report looked at the distance traveled by fresh fruits, vegetables and meat served as part of three Leopold Center-funded projects that used locally-sourced food grown by Iowa farmers. The local foods traveled an average of 45 miles from farm to point of sale, compared to 1,546 miles of transport for the same items from conventional sources.

The report also compared the miles traveled by 28 fresh produce items grown in Iowa in local, regional, and conventional systems. Findings showed that the conventional system used four to 17 times more fuel and emitted five to 17 times more CO₂ than the local and regional systems, depending on the system and the type of truck that was used.

University of Northern Iowa professor Kamyar Enshayan, Leopold Center intern Ellen Cook and ISU student Timothy Van Pelt helped Pirog with the report. Copies are available by request or at the Leopold Center web site, <http://www.leopold.iastate.edu/pubinfo/papersspeeches/foodmiles.html>.

Video showcases Iowa farmers

A new video explores why four Iowa farmers decided to get involved in sustainable agriculture and market their products directly to consumers.

The video, "Growing Against the Grain," was jointly funded by Practical Farmers of Iowa (PFI) and the Leopold Center as part of the documentation for PFI's Field to Family project. One of the featured farms on the video, Audubon County Family Farms, was a 1998 recipient of a three-year Leopold Center competitive grant for development of a farmer-based marketing model that could be used in other areas of the state.

In the program, producer and videographer Helen Gunderson shows the daily routines of Charles Carpenter, Vic Madsen, Mari Schultes and David Tousain. They narrate much of the 30-minute program, sharing their views on America's food system, corporate agriculture and how they have changed their operations to become more sustainable.

The video is available for loan from any member of Audubon County Family Farms. It also can be ordered for \$20 from Gunder-friend Productions, <http://www.gunderfriend.com> (cost includes shipping and tax).



Vic Madsen, Audubon County Family Farms

Photo used with permission of Helen Gunderson.



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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.

What should we do about Rural America?

This issue of the *Leopold Letter* focuses on public policy, a relatively new arena for our work. Over the past decade, the Leopold Center has devoted almost all of its attention to research on alternative production practices and environmental issues.

As we enter our next decade of work, we are convinced that we also need to pay attention to public policy. Public policy both shapes and is shaped by public attitudes. These attitudes translate into public support—or lack of it—for policies that affect our future.

The predominant attitude toward rural communities is that they have no future. In fact, this attitude seems to prevail even *within* rural communities. In 1991, rural sociologist Curt Stofferahn and his colleagues published the results of a survey conducted in several midwestern rural communities. They discovered that most rural towns harbor only two visions for their communities. One vision sees their town's death as inevitable due to economic decline, and their role as helping to ease the transition. The other vision also shows a dying town, but they cling to the notion that they can keep the town alive by attracting industry.

It is generally fair to assume that people outside rural communities have already given up on rural America. Margaret Usdansky's 1992 *USA Today* article in which she suggests that "small towns have a lot of history, little else" probably reflects the attitude of most Americans.

This attitude about rural communities is, of course, entirely based on economic analyses. The assumption is that since rural communities have outlived their economic usefulness, they no longer have a right to exist.

Very little attention has been given to the *social* and *cultural* values of rural communities. We are left with the choices of abandoning rural communities, sticking it out to help bury the

At fifteen, I could define failure fast: to die in Minneota, Minnesota. – Bill Holm

Small, rural towns have a lot of history, little else. – Margaret Usdansky

corpse, or nurturing the naïve hope that some "industry" will move into town and "save us."

The reality is probably not that simple. Aside from the fact that rural communities have made major contributions to our national good, we are now faced with the unsettling question of what we want to do with our rural landscape. *If the farms and towns that populated our countryside disappear, what will replace them?* Will what replaces them continue to serve the public good?

A few sociologists have given us snapshots of what the rural landscape of the future might look like. Frank and Deborah Popper have suggested that much of the Plains should be returned to a "buffalo commons"—a kind of wildlife preserve. Willard Cochrane recently suggested that such a commons might be given back to Native Americans as a new enterprise zone for a thriving bison business. Jedediah Purdy predicts that given current trends our rural landscape



Community development leader Karl Stauber (right) met with Fred Kirschenmann and other Leopold Center staff when he came to Ames in August to address the Rural Iowa Summit (see his comments, page 4).

might be divided between huge industrial complexes and an "idle playground for the rich."

Earlier this year, Northwest Area Foundation president Karl Stauber addressed the Center for the Study of Rural America, a program of the Federal Reserve Bank of Kansas City. He said one of the most critical public policy questions in the 21st century is whether or not, and how, to invest in rural America. Stauber suggested that without public action, rural America will continue to decline, leading to the "relocation of those with the most intellectual, financial and social assets." In other words, without imaginative public policies the very assets that might revitalize rural communities will disappear from those communities.

Stauber also suggested that a policy of government support "based on cheap commodities and labor is shortsighted and unlikely to produce broad-based public benefits." He also suggested that reciprocity is fundamental to establishing a new social contract for rural America. What will non-rural America get in return for supporting new initiatives to revitalize rural America economically, socially, and intellectually?

It is time for us to decide together what kind of future we want for rural America and how that future will serve not only our farms and our rural communities, but our city cousins as well. The Leopold Center intends to help foster those conversations in Iowa as part of our new policy initiative.

Karl Stauber's paper is available on the web at <http://www.Kc.frb.org/PUBLICAT/ECONREV/PDF/2q01stau.pdf>.



Photos courtesy ISU College of Agriculture

Celebrating 25 years of research

Leopold Center director Fred Kirschenmann set two challenges for on-farm research: get "wildness" back into agriculture and adapt to changes in nature. He presented the keynote address during a 25th anniversary event in June at ISU's Northeast Research Farm near Nashua. The program was staged in a hoop barn (right).

Work in Iowa communities key to meaningful change

The Leopold Center needs to work with Iowa communities to use what has been learned about sustainable agriculture over the past 12 years to bring about meaningful change.

That's the advice for the Leopold Center as new directions for future activities are hammered out during a yearlong planning process. The advice comes from seven professionals in the fields of ecology, marketing and public policy, who were invited to attend a two-day workshop in July on the Leopold Center's three proposed initiatives. The initiatives were discussed and developed at six "community conversations" conducted by Center staff with more than 200 Iowans last spring.

"Sustainable agriculture is an abstract idea until you relate it to a community," author Richard Manning told the group. "We need real people, trees and a watershed to help us grasp these

concepts, otherwise they just don't make sense."

Manning, who visited nine countries to write *Food's Frontier: The Next Green Revolution*, said an important aspect of community work are the

New directions, new initiatives

connections made with non-rural residents. "We've lost community and sense of place in our lives," he said. "A family farm has a strong sense of place, and we need to capture the Iowa story."

The Leopold Center's new initiatives focus on activities in the areas of ecology, marketing and public policy. Professionals at the July workshop were asked to suggest short-term and long-term strategies and activities in

each of the initiative areas.

Other participants included: Mark Edelman, economics, Iowa State University; Dick Levins, agricultural economics, University of Minnesota; Joe Lewis, USDA research entomologist, Tifton, Georgia; Theresa Marquez, marketing director, Organic Valley Family of Farms, LaFarge, Wisconsin; Chris Mundt, research botanist, Oregon State University; and Michael Shuman, public policy and marketing consultant, Alexandria, Virginia.

Work during the past year to develop future directions for the Leopold Center has been funded by a grant from the Cavaliere Foundation. For a summary of the workshop, contact the Leopold Center or check the Center's web site under "Leopold Center looks to the future."

Survival strategies: Comments from the Rural Iowa Summit

Here are some remarks offered by Karl Stauber, president of the Northwest Area Foundation, in his keynote address at a rural Iowa summit, "Iowa 2010: Harvesting the Vision," on August 28 at Iowa State University.

"We need to produce what consumers want and will pay a premium for, not non-specified commodities produced as cheaply as possible."

"One thing that urban people care about and rural people have is environmental quality. A critical issue in the

Midwest is clean water and increasingly, suburbanites see agriculture as a source of pollution... We must demonstrate that the land is much better taken care of with us on it than with us off it."

"Rural communities can offer a way to manage growth. We need to keep 25 percent of the population here and help them be productive, profitable and successful. In Colorado, farmers and ranchers are paid to raise alfalfa, which keeps open space and preserves the aesthetics."

"For rural communities to prosper, you need to have entrepreneurs. And in most stable communities, the people with the new ideas tend to be outsiders, people who haven't traditionally been a part of the business community including women, minorities and immigrants."

"It's important to invest in places, not sectors ... Social and human capital exist in communities. If you want the kids to stay, it's investment in communities that will get you there."

New relationships for issue teams

PROJECTS *(continued from page 1)*

response to a 15 percent cut in the Center's annual operating budget that occurred during the 2001 legislative session. Grants that fund 42 research projects already underway will be honored at least through June 30, 2002.

Also related to budget cutbacks, Kirschenmann said the Center is exploring new relationships with its successful multi-disciplinary issue teams. Leopold Center support for two long-running issue teams and two research initiatives will end June 30, 2002.

When the issue team concept was initiated in 1989, the teams received approximately \$50,000 per year for research projects, and partial salaries for team leaders. Issue teams were renewable every three to five years, with progress reviewed on an annual basis. Each team had an advisory committee of farmers, conservationists and researchers from other institutions.

"We are grateful for the wonderful work that has been accomplished by our issue teams and the international recognition it has brought to the Leopold Center," Kirschenmann said. "They have shown that it's essential to work with the farm community and involve more than one academic discipline in effectively addressing the problems of Iowa agriculture."

The change affects the Leopold Center's Agroecology Issue Team begun in 1991, the Animal Management Issue Team begun in 1990, the Swine System Production Alternatives Initiative that started in 1997, and the Long-Term Agroecological Research (LTAR) Initiative that was added in 1998.

Kirschenmann said Leopold Center staff are working with team leaders to identify new opportunities for funding and ways that the team's work can be integrated into the new initiatives.

In May, the Leopold Center received a \$250,000 reduction in agriculture appropriations from the Groundwater Protection Fund, plus a \$35,000 cut in educational appropriations from Iowa State University.

Call for Projects and Partners 2001-02

As the Leopold Center begins formulating new program directions, we're looking for concepts, projects, partnerships, and/or innovative research that:

- *Fall within our three areas of focus – ecology, marketing and policy – and lead to one or more of these outcomes:*
 - ecologically friendly systems less dependent on purchased farm inputs,
 - markets for food and fiber that support and are linked to resilient local communities, and
 - new food and agriculture policies that are community- and farmer-friendly.
- *Reflect interaction among the three focus areas.*
- *Lead us to food and agricultural systems with as many of the following characteristics as possible: efficiency; self-renewal; self-regulation; self-sufficiency; interdependence; and diversity/versatility.*

Other important information about participating:

1. Investigators can be from any Iowa nonprofit organization and/or educational institution (such as soil and water conservation districts, schools, and regional development groups); no restrictions on partners and collaborators.
2. Call us if you have any questions about the process or if you have some ideas you want to discuss with us.
3. Send us a one- or two-page letter summarizing your project idea, concept, research idea, or partnership. Please outline your project strategies, existing or potential partners, and overview of your budget (financial resources you already have or expect to need for the proposed activity).
4. Your proposed work must be received at the Leopold Center before midnight, October 31, 2001.
5. Send your material by letter, fax, or E-mail to the Leopold Center for Sustainable Agriculture, Iowa State University, 209 Curtiss Hall, Ames, IA 50011; Phone: 515-294-3711. Fax: 515-294-9696; or E-mail: leopold-rfp@iastate.edu (in the E-mail subject line, please use: rfp1-your last name).

Conference program to support new initiatives

The Leopold Center's eight-year-old conference and workshop program has been modified to support the outreach component of the Center's three new ecology, marketing and policy initiatives.

The modified program will provide major support for conferences and other educational events planned by Leopold Center staff and partnering organizations, and limited support for activities planned by other organizations.

In the past, grants for conferences and workshops were awarded quarterly based on proposals submitted by organizers of each event. Between 1993 and 2001, the Leopold Center provided financial assistance for 145 regional conferences and events attended by 18,000 Iowans. In light of legislative cuts to the Leopold Center's

budget in May, the program was suspended after the Spring 2001 cycle of grants was completed.

"The quarterly program has worked well and served an important purpose, but it is time for a change," said Rich Pirog, the Center's education coordinator. He added that a survey of program participants in late 2000 supported a more focused and innovative approach for education and outreach.

Guidelines for organizations to request limited support are being developed. An example of the new conference partnering arrangement was the September 18 pork niche conference sponsored by the Leopold Center, Iowa Pork Industry Center and Iowa State University Extension.

Focus on farm policy: What are the alternatives?



A farm policy to protect people, not commodities



By Michael Duffy
Associate director and
ISU Extension economist

The debate over the nation's next farm bill illustrates several of the problems that agriculture and U.S. society must address. The cost of the current farm program is becoming prohibitively expensive, especially in the midst of an economic slow-down. As it is structured now, the farm program hands out the biggest payments to the largest farmers. Despite vast amounts of money invested in the current farm program, the number of farmers continues to dwindle and environmental degradation is still being attributed to agricultural practices.

Many people ask how the current farm program can feature such uneven distribution of payments. In Iowa, for example, 10 percent of the farmers received 61 percent of the payments while the remaining 90 percent of the farmers received only 39 percent of the funds. Such discrepancies are not surprising considering that the majority of payments are dispersed based on the amount of commodities produced. The more you grow, the more you get from the government; and the bigger you are, the more you get.

Most of the American public gives little thought to the farm bill. They have food and as long as it is relatively safe, abundant and not too expensive, they really don't

care about agriculture. However, this is changing. The cost of the current programs, the continued loss of family farmers, and the payments that disproportionately reward large operations are causing people to rethink how the money is being spent.

What type of farm program do we want? Do we support one that continues to favor commodity production? What other goals might our farm program have? Should we expect more from our farm policy?

Alternative proposals, presented by Senator Tom Harkin (D-IA) and Senator Richard Lugar (R-IN), would shift payments to reward conservation activities. I would like to offer another modest proposal that would represent a shift away from the current payment system, but (I feel) would be more in line with what Americans value.

Earlier this year I presented "A Guaranteed Minimum Wage for Farmers" at a field hearing conducted by the U.S. Senate Agriculture, Nutrition, and Forestry Committee. This was an alternative farm bill proposal I developed with Paul Lasley, an ISU sociology professor. Since the original presentation, I have received several reviews and additional comments that have helped refine the proposal. There was one complaint regarding the title of "minimum wage" and I have changed it to supplemental wage.

On these two pages is a discussion of the general concepts of my wage proposal. I hope to solicit more comments but more importantly, I hope offering alternatives for policy makers to consider will help improve the farm bill that eventually is passed.

Q & A: Guaranteed Supplemental Wage for Farmers

What is a supplemental wage for farmers?

In a farmer supplemental wage program, federal payments to farmers would be based on the amount of labor expended rather than the amount of commodities produced. Farmers would receive an average wage times the average number of hours they worked on the farm. Payments would be limited to full-time on-farm employment for each farm owner-operator.

Farmers could plant whatever crops they wished and receive the going market price for their production. There would be no government price supports,

no loan deficiency payments, no emergency programs, and no land set-asides.

The government would support only actual labor. Any additional earnings would depend upon the management skills of the producer. Insurance plans, marketing tools, cost control measures, and other management tools would be available to the farmer. The return to management for farmers would depend on their management decisions.

How would the farmer supplemental wage be determined?

Farmers would be paid the average prevailing wage rate in their county or state

based on some initially agreed-upon index. One example would be the average wage for Production, Construction, Operating, and Material Handling Occupations. In Iowa, the average wage rate for such occupations is \$11.95 per hour.

How would the average number of hours be determined?

The time required for various farming tasks in typical enterprises would be established at the state level. Additional time would be allowed for a standard travel distance, maintenance and overall operation. For example, an acre of corn would be figured at X number of hours,

Q & A: This farm policy would treat all farmers equally

an acre of soybeans would be figured at Y hours and a litter of pigs at Z hours. The average times are already known or could be estimated from standard engineering data. Farmers would receive the average rate regardless of how much time the task took on their farms. Eligible enterprises would be determined by those activities reported to the local Farm Service Agency.

How would it affect conservation?

Farmers would be required to meet all of the conservation requirements currently in place to be eligible for the program. This would include all the existing prerequisites, restrictions and conditions.

Farmers also would be able to earn additional hours for conservation or community betterment activities. Betterment activities would be things that enhance the appearance or overall functioning of the community, including improved farm appearance, volunteer work, and other community leadership roles. Conservation activities could include tree planting, wetland restoration, establishment of hiking trails for the general public, and other activities designated by the local conservation board.

Would there be payment caps?

Yes. A farmer would be paid only for the hours up to full-time employment levels, regardless of the size of the operation. The eligible hours would be the hours per enterprise for all the enterprises plus any extra hours. Full-time employment for a farmer is open to debate, but I propose to use an 8-hour day, 7 days a week, for 50 weeks, or 2,800 hours. If farmers worked less than 2,800 hours, they would be paid only for the time they worked. If they worked more than 2,800 hours, they would still be paid only for that many hours.

How would it affect beginning farmers?

This plan would offer encouragement to them. They could enter farming as local conditions allowed. They would be able to expand their operations and payments over the life of the bill. Because payments are based on labor, the distortions for the land market would be decreased and land rents and values would be more in line with their income-earning capacity.

What about other farm assistance?

No special programs for market or weather-related problems would be allowed, except for those provided by other agencies or programs outside the U.S. Department of Agriculture. Trade, research, conservation reserve and other secondary programs would be maintained. The extent and nature of these programs would be covered in other sections of the farm bill.

What are the benefits of such a plan?

For one, the budget exposure would be fairly fixed. The federal government would know within reason the total dollar outlay for this program. Farmers and lenders would know in advance at least a portion of the income expected for the year. State government also could estimate this portion of farmer income with greater precision.

This plan would not distort the market (except possibly the local labor market wage). There would be no set-asides or uncertain land retirement programs. Supply and demand would dictate prices for commodities. The impact on land prices and rents would be less than under current conditions.

This plan would treat all farmers equally. It would discourage the predatory practices we are seeing today as farmers try to increase production to increase government payments (i.e., farming the program rather than the land). Under this plan, farms could increase in size but the farmers would be paid only for the full-time labor equivalent for their operations, the rest would be up to them.

What issues are still unresolved?

Obviously, there would be many issues to address in a final form of this proposal. One of the most critical would be the level of supplemental wage to use and how it would be determined. There are concerns that a supplemental wage rate could impact the wage structure in a local area. However, I do not think that this distortion would be as severe as the current distortion in the land markets.

Decisions would have to be made about the extent and level of spousal income to be included. As conceived, the wage would be only for the operator who files the Schedule F tax return.

A similar but related issue involves contributions from underage family members. To some degree this could be

handled by adding an age restriction and applying the Schedule F rules.

Specialty crops may present some problems because there may be no standard production time estimates available. In these cases, production time could be estimated by Cooperative Extension with input from commodity groups, state departments of agriculture, Farm Service Agency personnel, or other parties.

How people could change their enterprise mix, and how often it could be altered also need to be determined. As the idea was conceived, the enterprise mix would be established and in place until it was altered, perhaps once a year.

Why should we do this?

From the public's perspective, supporting labor in agriculture is preferable to supporting commodities. It will:

- allow the markets to function relatively freely,
- aid those who care for the natural resources of this country,
- help ensure that the nation's food supply doesn't become concentrated in too few hands, and
- give assistance equally, rather than favoring the largest recipients.

Farmers should think carefully about this proposal because it will allow them to participate in a free market at last. It would provide some support for their labor while it unleashes their ability to earn management income based solely on their own skills. They also should like this proposal because of its simplicity. There would be no second-guessing what the government will do with its payments, no marketing based on some artificial price, and no land set-asides. Farmers could produce whatever and how much they want. It would help level the playing field for beginning farmers and help end the spiral of trying to acquire more land regardless of the cost.

What are the chances for such a plan?

Probably close to none. The vested interest in maintaining the status quo is too great. There are numerous people who benefit from the government support of commodities and many of them are not farmers. Passage of a plan such as this will take time – time for people to realize what they really want a farm program to accomplish and how they want to proceed.

Focus on farm policy: *How green payments would work*



By Catherine L. Kling
ISU economics professor and head of the
Resource/Environmental Policy Division,
Center for Agricultural and Rural
Development

Aldo Leopold's land ethic calls for humans to act as caretakers of the earth, treating the land and all that is upon it with deep respect. Although Leopold felt that landowners should adopt conservation practices independent of the profitability of doing so, market realities make this a problem for many farmers. A conservation payments program, such as the Conservation Security Act proposed by Senator Tom Harkin, would make payments to farmers based on the number and degree of environmentally-friendly practices adopted on a farm. Such a program could help farmers adopt the caretaker role that Leopold cherished, while allowing many to continue to earn their living from the land.

Why does the market fail to supply environmental goods?

It is well understood among economists that private markets are likely to undersupply environmental goods; in other words, there is likely to be a market failure. Why? This can happen when environmental degradation is a side effect of a market activity (such as farming), which imposes costs on people other than the producer.

For example, a farmer applies fertilizer to increase crop yields, which also results in nutrient-rich runoff. The costs of the fertilizer and the benefits of the crop production accrue to the farmer, but the "costs" of the nutrients that enter the waters are borne by society at large in the form of degraded water quality. This market failure can be corrected by raising the cost of fertilizer use or by paying the farmer to adopt practices that reduce soil erosion, thereby reducing or eliminating the water quality damage.

The market also fails to produce environmental goods because of their public nature; that is, many people benefit from their production. Retaining wetlands, building buffer strips and preserving native prairies, for example, produce wildlife, biodiversity and scenic views that can be enjoyed by all. But it's extremely difficult for farmers to package and sell these environmental goods. A conservation payments program would make it profitable for farmers to produce these environmental goods.

What issues need to be resolved?

With so many arguments in favor of a conservation payments program, why not immediately adopt one? There are a number of political and pragmatic implementation issues that first must be settled.

Among these top issues is the degree to which a farm program with conservation payments also will be designed to provide income support to farmers. If the sole purpose of a conservation payment program were to maximize the environmental gain for the budget provided, the program should be designed to pay the most to farmers who have the most environmental services to offer. However, if the program is also to be viewed as income support, a different set of farmers might be targeted

who have fewer environmental services to provide. In fact, a recent USDA study suggests that targeting conservation payments to support low-income farmers is unlikely to serve the goals of conservation very well. Thus, policy makers will need to decide how much they are willing to trade environmental gains for income support and vice versa.

How can early adopters be rewarded?

This leads to a second related issue: whether to pay farmers who had previously adopted environmentally-friendly practices. In Iowa for example, about two-thirds of farmers employed some form of conservation tillage in the early 1990s, either out of a sense of responsibility to the land or because it was already profitable to do so. Most proponents of conservation payments argue that to not pay previous adopters would be both unfair and cause perverse incentives (encouraging people to stop such practices in order to begin them again to get benefits). Such arguments may well be compelling, but it must be recognized that paying previous adopters will increase, probably substantially, the costs of the program with little environmental gain. On the other hand, paying previous adopters can be viewed clearly as an income support policy.

A third issue is the degree to which payments could be based on performance rather than practices. Although it will likely be much easier to base payments on the degree to which farmers adopt particular practices (e.g., low-tillage methods or spring nitrogen applications), it would be more efficient to base them on how successful they are (how much less erosion results or how much additional wildlife is supported). The difference in efficiency arises because some land and locations are better suited to producing wildlife than others, and farmers in those areas should be most strongly encouraged to participate in such activities. Unfortunately, it will be difficult or at least costly to measure the environmental products of any farm's activities.

A compromise approach is to base payments on practices, but to vary payments across locations so that farms located in regions that tend to generate high environmental benefits from a certain practice receive a higher payment for that practice relative to other locations.

Other issues to resolve include how to monitor and verify that conservation contracts are being complied with, what agencies will have primary enforcement responsibility, whether the practices and environmental goods targeted will differ regionally, and how bidding for contracts will be carried out.

Conservation payments on a broad scale, such as those proposed in the Conservation Security Act, would be a bold step in farm policy. Although there are implementation issues yet to resolve, conservation payments may be a real step toward correcting the environmental market failures in agriculture. In so doing, we may take a step closer to Aldo Leopold's view of the landowner as caretaker of the natural world.

This article is a summary of a briefing paper issued in June 2001 by the Center for Agricultural and Rural Development (CARD). The entire paper, "Conservation Payments: Challenges in Design and Implementation," is on the Web at <http://www.card.iastate.edu>.

Focus on farm policy: *State policies are needed, too*



By Neil D. Hamilton
Drake University law professor and
Agricultural Law Center director

Should schools purchase meat and produce directly from local farmers? Do all eligible citizens have access to public food assistance programs without unnecessary barriers and stigma? Do city officials consider the

value of preserving local farmland or support opportunities for producers to sell directly to consumers? These examples of state and local food policies will be critical in determining the future of agriculture in our state.

With attention paid to billion-dollar “emergency” farm bailouts and the discussion of the 2002 farm bill, it is too easy to assume that the federal policy is the only factor shaping the future of farming. The federal government plays a central role in creating the economic environment for much of agriculture, especially commodity production. But state and local actions can be just as important.

An Iowa policy that promotes sustainable agriculture

In Iowa we have spent 15 years developing a more sustainable agriculture for our state. In 1987, as part of Groundwater Protection Act, the legislature created the Leopold Center for Sustainable Agriculture at Iowa State University. With the center’s leadership – and the state’s continued funding for the research provided by that law – Iowa will remain a national leader in this critical area.

Accomplishments the Leopold Center can rightly claim include the fact that more than 1 million hogs are being raised in the more than 2,000 open-bedded hoop structures Iowa farmers have built. Without the center promoting this low-cost and environmentally friendly alternative for pork production, this change would not have happened. Center research is helping farmers and landowners place thousands of acres of field buffer strips along rivers and streams to clean the water and conserve soil.

The role of state policy can be seen in other important trends in America’s food system. Consider organic food production, the fastest growing portion of American agriculture with annual sales increases of more than 20 percent for the last 10 years. The growth in organic farming is largely the result of actions by farmers and consumers. New federal rules will be important in creating a uniform national and international market standard, but states continue to play key roles.

Many Iowa farmers, researchers, food processors, state officials and the Leopold Center are leading this dynamic part of agriculture of creating opportunities for farmers, businesses and consumers. The Leopold Center’s research on organic farming is an important extension of the Iowa’s efforts in this area.

Growth of the local food movement

Other emerging issues in state food policy include direct farm marketing and increasing the institutional use of locally grown foods. Perhaps the most exciting trend in Iowa’s food system is the growing local-food movement. Five years ago, you would have been hard pressed to find “Iowa grown” food on a menu

or in a store. But that is changing. The proliferation of farmers’ markets and producers diversifying what they raise and how they sell it are indicators of the change. Menus featuring Iowa-grown food and institutions promoting “all-Iowa” meals are important signs of this trend.

Five years ago, the Leopold Center made a critical decision to support research initiatives to stimulate consideration of how community food systems operate in Iowa. This shift recognized that a truly sustainable agriculture won’t emerge if we consider only resource issues, such as soil and water quality, while ignoring human and social issues of how food is produced and marketed. This change in thinking requires Iowa to consider opportunities for farmers to raise and sell what they grow and the ability of communities – both local and regional – to support them. This has led to issues such as direct farm marketing, further processing of foods and supporting “value-added” agriculture as it is often called. It also requires us to think about how decisions made by schools, state and local governments and businesses affect the market for food products.

A Leopold Center policy that worked

Perhaps the most visible example of local policies that build a sustainable agriculture was the Leopold Center’s decision in 1997 to serve locally-sourced foods at events and conferences it sponsors. This simple act of asking chefs at the Scheman Center and elsewhere to work with local farmers has helped lead to a sea change in appreciation for Iowa food.

Federal farm programs will shape economic environment for large parts of agriculture and determine rules for conserving resources. With a price tag in the billions and the power of federal authority, they should. But the reality is that Iowa cannot rely on these programs to provide a farm and food policy specially designed for the needs of our state. That is why we must consider the potential role for state and local food policies.

We can decide as a state what we want for clean water, land use and urban growth, direct farm marketing and agricultural diversification, and how well we address hunger and nutrition. But as a state we won’t be able to develop our own “Iowa answers” unless we engage in the debate and recognize our capacity to shape the outcome.

Neil Hamilton prepared this article for the *Leopold Letter*. Much of it appeared in an Iowa View column in the *Des Moines Register* on September 5, 2001.

“We shall never achieve harmony with land, any more than we shall achieve absolute justice or liberty for people. In these higher aspirations the important thing is not to achieve, but to strive.”

– Aldo Leopold

Research helps industry prepare for expected regulations

POULTRY (continued from page 1)
Iowa related to poultry manure application on crop fields.

After three growing seasons on nine test plots in a corn/soybean rotation, Iowa State University researchers found that over-application of poultry manure can, indeed, result in high concentrations of nitrates, phosphates and bacteria in surface and subsurface drainage water. But when applied to the test plots at a lower rate, poultry manure resulted in the highest average corn yields (compared to liquid urea-ammonium-nitrate, or UAN fertilizer) and the lowest amount of pollutants in drainage water.

In other words, chicken manure is a viable crop nutrient in Iowa, but only when carefully managed.

Careful management needed

“Our worry is that as the poultry industry grows in Iowa, land-application and other environmental problems can occur here as they have in other areas of the country where poultry manure is land-applied on a large scale,” said Ramesh Kanwar, lead researcher and head of the ISU Department of Agricultural and Biosystems Engineering.

“We want to be prepared with the data to recommend the best management practices that can reduce or minimize any environmental effects these applications might have on our landscape,” he added.

Kanwar conducted the research trials at ISU’s Agronomy and Agricultural Engineering Research Center near Ames. Application was based on nitrogen content of liquid UAN and poultry manure. Two different rates were used: 150 lb. N/acre for both UAN and poultry manure applications, and 300 lb. N/acre for poultry manure applications. Water samples, collected from subsurface drains once a week and immediately after rainfall, were analyzed for $\text{NO}_3\text{-N}$, $\text{PO}_4\text{-P}$ and three types of bacteria. Soil samples were taken before planting and after harvest.

Results show that use of poultry manure in field plots, compared to UAN applications, resulted in significantly

higher corn yields with increased subsurface water quality. Poultry manure applications at a lower N rate of 150 lb./acre resulted in the highest yields and lowest concentrations of $\text{NO}_3\text{-N}$, $\text{PO}_4\text{-P}$ and bacteria of all treatments in the study.

Research continues

The study has been extended so that researchers can repeat the experiments for a complete corn-soybean rotation. Kanwar said he also hopes to gather data helpful in establishing recommended practices for poultry manure application. During the first three years, the Leopold Center

picked up 60 percent of the costs, or about \$65,000, and the Iowa Egg Council the remaining 40 percent. Those expense splits will be reversed in the fourth year of the project.



Adion Chinkuyu, a former graduate student at Iowa State University, calibrates the amount of poultry manure to apply on ISU field test plots west of Ames.

Photos courtesy/ISU research associate Carl Pederson.

A poultry manure profile

The manure from Iowa’s largest egg-laying facilities has to go somewhere. Iowa State University agricultural engineer Jeff Lorimor said the poultry manure generated in the state is spread on neighboring farmland.

“Most is either sold or given away and is hauled up to 30 miles to the farmers who want to use it,” said Lorimor, who works closely with poultry, cattle and hog producers to develop manure management plans. “Many of the layer operations have a waiting list of farmers who want the manure. It’s dry and quite concentrated compared to liquid manure, and can be economically hauled farther than hog manure.”

Poultry manure contains about 40 percent water, compared to hog manure, which is 96 percent water. Poultry manure is handled as a solid, and is less likely to contribute to odor problems than liquid manure.

The concern for poultry manure is its high phosphorus content relative to nitrogen. Unlike nitrogen, which can be carried away in water runoff, phosphorus most commonly clings to solid matter and can be carried into streams by soil erosion. Poultry manure also contains small amounts of heavy metals such as copper, selenium, nickel, lead and zinc.

Lorimor estimated that it would take about four tons of chicken manure (the amount produced by approximately 400 egg-laying chickens in a year) to fertilize an acre of corn at the recommended nitrogen rate.

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

– Aldo Leopold

Leopold Center helps Australian farmers learn about sustainability – American-style

Concern for survival of the family farm and the need to make agriculture more sustainable reaches around the world.

In August, the Leopold Center hosted a group of 40 Australian farmers who were on a 10-state tour of farms, processors and research facilities involved in sustainable agriculture. They stopped in central Iowa long enough to see the Leopold Center’s work on hoop barns, organic agriculture research plots, and buffers along the Bear Creek National Watershed Demonstration site north of Ames. They also met with Leopold Center staff and sustainable agriculture groups from Iowa State University and Practical Farmers of Iowa.

“I love people and there’s no two better to get along than Australians and Americans,” said Queensland farmer Don Macfarlane, who has organized a dozen tours since 1990 for more than 600 Australian farmers. He believes the tours empower farmers to find their own answers to agricultural concerns.

Most of the visitors had never seen a hoop barn used for hog production. The Leopold Center has constructed three such structures at the ISU research farm near Rhodes.

“It would be a bit more work but it seems to make a lot of sense,” said Les Turner, a Queensland beef producer who also grows alfalfa. “And then we could straightaway avoid monocultures.”

Among other stops, the group visited Tom Frantzen’s farm in northern Iowa, a dairy cooperative in Wisconsin, a Mennonite farm in Illinois, a large dairy/calf operation in Pennsylvania, and a Virginia farmer who sells fresh eggs, poultry and various meat products directly to 400 families.



Joselyn VanEck toured with her parents, who farm near Fish Creek, Victoria.



Don Macfarlane has brought more than 600 Australian farmers to the United States since 1990.

Photos by ISU student Matt Miller

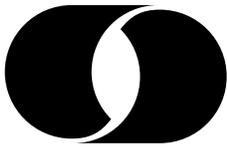
Positive thinking ... *Successful Farming* magazine selected Leopold Center director Fred Kirschenmann as a “positive thinker” to feature in a special issue distributed in June. The editors interviewed 10 people about their positive attitudes and offered other tips to help farm families overcome crises and other obstacles. The article is on the web at: http://www.agriculture.com/sfonline/sf/2001/positive_thinking/fee.html. Parts of the story were broadcast on *Successful Farming’s* weekly Radio Magazine that goes to 125 stations in 21 states.

NEWS
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NOTES

Xiaofan Niu, a first-year student from Shenyang, China, has been awarded the first **Leopold Fellowship** in Iowa State University’s new Graduate Program in Sustainable Agriculture (GPSA). In June 2000, the Leopold Center Advisory Board approved funds for the fellowship in support of the new ISU program, the nation’s first sustainable agriculture program for masters and doctoral students.

A report prepared by the Leopold Center became background reading for Iowa legislative staffers in April as they prepared a bill that created the new Iowa Wine and Grape Commission. The 2000 report, “**Grape Expectations,**” showed the potential for redevelopment of Iowa’s once-thriving grape industry. The center has distributed more than 1,300 copies of the paper, which continues to be a source of information for news media. Iowa Public Television is featuring the report on a segment of its Market to Market program, scheduled to air in October. For the report, contact the Leopold Center or check it out on the web at: <http://www.leopold.iastate.edu/pubinfo/papersspeeches/grapes2000.html>.

A web site that shows Iowa farmers how to compost the carcasses of dead animals has earned a top educational award from the American Society of Agricultural Engineers. The web site, <http://www.ae.iastate.edu/pigsgone/>, summarizes research done by Iowa State University engineering professors Tom Glanville, Jay Harmon and Tom Richard on an “environmentally-friendly” way to deal with swine mortalities. The project and web site were funded by a Leopold Center competitive grant. Glanville reports that officials from one of the nation’s largest beef feeding operations have visited the demonstration and are interested in the team’s work.



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LEOPOLD *Letter*

HIGHLIGHT EVENT

Leopold Center to host Rachel Carson play

The poetry, prose and beliefs of environmentalist Rachel Carson will come alive at Iowa State University in a November 8 presentation of "A Sense of Wonder."

The Leopold Center is sponsoring the performance of a one-woman play, based on the life and works of Rachel Carson, in the Maintenance Shop of the ISU Memorial Union. The 8 p.m. performance will be followed by a discussion of Carson's views on sustainable agriculture. Leopold Center director Fred Kirschenmann will moderate the discussion.

New York actress Kaiulani Lee has written the play with the help of many of Carson's friends and colleagues. It depicts the time in Carson's life when she battled breast cancer and the public furor over her book *Silent Spring*. Miss Lee has more than 20 years of experience in theatre, including leading roles in a dozen plays and appearances on numerous television shows.

The performance is part of Women's Week activities coordinated by the ISU Committee on Lectures. No admission will be charged but limited seating is available at the Maintenance Shop.

For more information, contact Laura Miller at the Leopold Center, (515) 294-3711, or go to the Center's web site, <http://www.leopold.iastate.edu>.

The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction. – Rachel Carson, 1954

Author of Silent Spring, Houghton Mifflin Company, 1962



Photograph of Rachel on the dock at Woods Hole by Edwin Gray, used courtesy Rachel Carson History Project/Rachel Carson Council.