

Work begins on 19 new Leopold grant projects

The Leopold Center has awarded grants for 19 new projects covering a wide range of activities. All projects will help farmers take advantage of new opportunities related to local foods and renewable energy, and encourage a transition to alternative systems that protect the environment while using fewer outside inputs. These projects will receive \$468,686 for their first year of work, and were selected in a competitive process that began last summer. Grants for nine of the new projects are for one year, seven projects will run two years, and three grants are for three years. The Center also has renewed 25 grants for multi-year projects already in progress,

bringing the total amount of current competitive grant-funded research at the Leopold Center to about \$1,050,000. Because decreases in the Center's budget were less than anticipated, several additional projects are being considered for funding. The Center's Marketing and Food Systems Initiative will fund 10 new projects. Topics range from transportation needs within Iowa's "foodsheds" and food safety training for growers, to improving veterinary care for organic livestock producers and creation of a new working group to focus on food access and health issues.

GRANTS (cont. on page 4)

America's new farmers: Where do we find them and how do we help them?

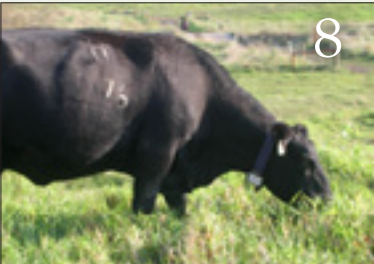
By MARY ADAMS, Outreach and Policy Coordinator

Who is the next generation of farmers?" asked Neil Hamilton, director of the Drake University Agricultural Law Center and longtime Leopold Center advisory board member. His challenge opened "The Drake Forum: America's New Farmers: Policy Innovations and Opportunities," held March 4-5 in Washington, D.C. The conference attracted an eclectic mix of nearly 200 U.S. Department of Agriculture officials, local community organizers, energized new farmers, rural development specialists and state government representatives. Participants agreed that access to land and credit pose critical barriers for new and beginning farmers nationwide. The challenge is to make government policies (existing and potential)

work for both lenders and landowners. New farmers need training and education, especially in financial management. The conference opened with a speech from U.S. Secretary of Agriculture Tom Vilsack, who reminded the group that rural America makes up one-sixth of the United States, yet rural incomes average \$11,000 per year below those of urban residents. At lunch, Senator Tom Harkin (D-IA) spoke about the increasingly critical relationship between food and health issues. Conference organizer Neil Hamilton commented, "We are quite pleased they both made the special effort to speak to the Forum. It shows how important they feel about the need to help support

NEW FARMERS (cont. on page 7)

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The newsletter is on the web at:
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LEOPOLD CENTER

LEOPOLD LETTER MISSION

The mission of the *Leopold Letter* is to inform diverse audiences about Leopold Center programs and activities; to encourage increased interest in and use of sustainable farming practices and market opportunities for sustainable products; and to stimulate public discussion about sustainable agriculture in Iowa and the nation.

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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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Research Results

On the Web: www.leopold.iastate.edu/research/topics.html

Summaries

Easy-to-read summaries are available for these recently completed projects funded by Leopold Center competitive grants. Find them on our Research Results web page.

- Development and implementation of low-input delivery systems for ethanol co-products in forage-based beef systems
- Participatory ecology for 'Agriculture of the Middle': Developing tools and partnerships to bridge gaps among science, people and policy in landscape change
- New strategies to enhance sustainability of apple orchards
- Building a direct-to-consumer food distribution system in Iowa
- Strategies to effectively promote and market on-farm retail enterprises
- Tunnels to tables: High tunnel production and distribution model for produce
- Beginning and mid-size Farm Bill analysis: Policy option development and education initiative

Scientific Journals

Leopold Center-supported projects have resulted in these papers, recently published in peer-reviewed journals. Check at a research library or the journal's Web site for abstract or full report.

- Cruse, Michael J., Matt Liebman, Raj Raman and Mary Wiedenhoef (2010). Fossil Energy Use in Conventional and Low-External-Input Cropping Systems, *Agronomy Journal* 102(3):889–894. [Six years continuous research data from two Leopold Center Ecology Initiative competitive grants: Establishment of a Field School for Weed Ecology and Management; and Agronomic, Ecological and Economic Comparisons of Conventional and Low-External-Input Cropping Systems.]
- Schulte, Lisa, James Donahey, Luke Gran, Thomas Isenhardt and John Tyndall (2010). People in Ecosystems/Watershed Integration: A dynamic watershed tool for linking agroecosystem outputs to land use and land cover, *Journal of Soil and Water Conservation* 65(2):33–36A. [Early development of Schulte's model was supported as part of an agroecosystems planning grant between the Leopold Center and U.S. Forest Service.]

News & Notes

Leopold Center Associate Director Rich Pirog served as a research advisor for the Girl Scout Journey book, *Sow What?* The 2009 guidebook leads senior Girl Scouts through the food system with activities to earn the prestigious Girl Scout Senior Harvest Award. The Leopold Center's research in food miles and place-based foods are cited in the book, which also includes a profile of Atlantic, Iowa farmer Denise O'Brien and her food advocacy work.

...

"Agriculturalists are recognizing that resilience is at least as important to food security as maximum production, and consumer concerns provide us with unprecedented opportunities for farmers and consumers to come together as 'food citizens' to determine appropriate changes in our

food system." These comments are from a commentary, "Alternative agriculture in an energy- and resource-depleting future," by Leopold Center Distinguished Fellow Fred Kirschenmann published in March by the *Renewable Agriculture and Food Systems* journal (formerly the *American Journal of Alternative Agriculture*). The article's on-line reference is: <http://dx.doi.org/doi:10.1017/S1742170510000141>.

...

Leopold Center advisory board member Laura Jackson and former Leopold Center director Dennis Keeney contributed to a new book, *A Watershed Year: Anatomy of the Iowa Floods of 2009*, published in March by the University of Iowa Press. They co-authored a chapter on how perennial farming systems could better resist flooding.

g&a WITH THE DIRECTOR

A conversation with Jerry DeWitt

Director offers these reflections before he begins another journey



Over the last 37 years as an adopted “Iowa native” pursuing my ISU Extension work in Entomology and later as Director for the Leopold Center, I have driven literally thousands of miles across all of Iowa into every county and have left my footprints on many farms.

It has been my goal to visit 25 farms each year to walk the ground and allow the serenity of the land and its people to fill me. I have taken much with me as I left each farm and my life has changed. I have touched the soil, been inspired by the fabric of the landscape and have been nourished by the richness of the deep roots of Iowa agriculture and its people. Each farm, each family has given me the gifts of knowledge, appreciation and friendship. To me, each farm family has been like a neighbor and their

home place and landscape have left an indelible impression on me. And I am grateful.

But, all of us with rural roots know that over time our neighbors change, farms evolve, and new visions and opportunities come to the land and our neighbors. I have seen this on my own family farm in Illinois. Things change. And this is all normal, good and healthy.

And now I start one more journey. I, too, want to be a neighbor again and I start that part of my life in the coming weeks. I will retire from Iowa State University and as Director of the Leopold Center at the end of June. My new steps in life will put me back in touch with the land and its potential. I will grow as will the plants I intend to

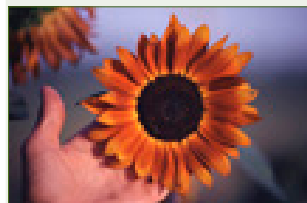
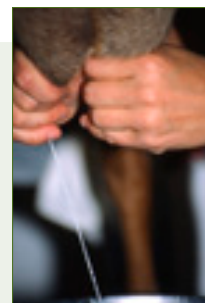
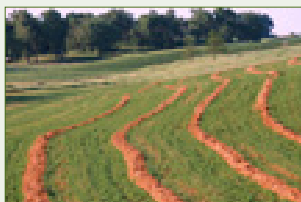
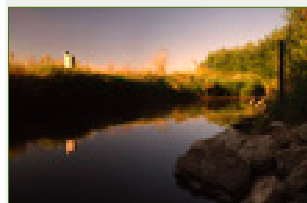
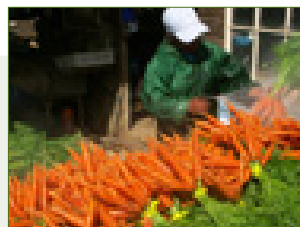
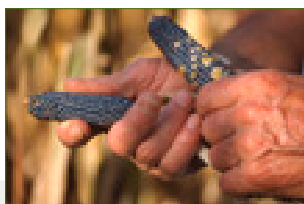
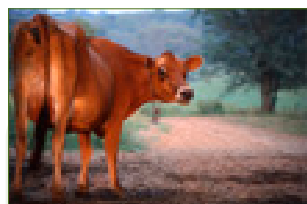
cultivate in my new greenhouse. The soil will nurture us both.

I will miss much from this office and its mission. I will miss the people of Iowa. I will miss the excitement of creating a potential new page in the story of Iowa agriculture.

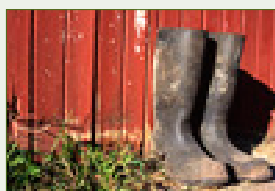
We at the Leopold Center have a passionate history of helping create positive change for our Iowa neighbors, their land and dreams for almost 23 years. This will not change with my departure.

Thank you for your voices and encouragement extended to me as Director these past five years. You have changed my life and I am grateful.

Jerry DeWitt



I have been changed by what I have seen, what I have heard. I have been a guest and student on a learning journey of people on the land. These are the people who have sustained their land, their lives and ultimately me. — Jerry DeWitt



Top: Jersey cow on an organic dairy farm near Fairfield; heirloom corn held by a monk of the Trappist monastery where it was grown, Dubuque; a woman drinks from a well at a organic farm near Crescent; a man washes carrots on an organic farm in western Oregon.

Center: A riparian zone along Bear Creek in Story County; pasture-farrowed pigs in Boone County; hay ready to bale in Plymouth County; three tomatoes grown for a local food restaurant, Rudy's Tacos, Waterloo; milking a Nubian goat near Woodward to make cheese.

Bottom: A sunflower held by a market gardener, Deep River; boots by a barn on a grain and livestock family farm in Boone County; a youth entrepreneur from Polk County holds three baby chicks.

Sociologist named Leopold Center interim director

An Iowa State University sociology professor has been named interim director for the Leopold Center following a nationwide search that ended without a candidate being selected.

Lois Wright Morton will begin her appointment on July 1, following the retirement of Jerry DeWitt after 38 years at ISU and the past five at the Leopold Center.

A rural sociologist, Morton has been a member of the ISU faculty for 11 years. She conducts research in areas such as farm decision-making; social connections

of people and organizations; leadership development; and how people and communities work together to solve problems of natural resource management. She also has an extension appointment and teaches a sociology of environment course for undergraduate and graduate students.

She is part of a team of scientists working on a Leopold Center-funded prescriptive burn and grazing research project on lands used for cattle production and recreational purposes. The project applies patch-burn grazing experiments as a man-

agement practice for protecting prairie and grassland habitats against eastern red cedar, an invasive species. In turn, the practice may help increase forage availability.

The search had brought four candidates to campus last fall for interviews, and two had second campus visits. The search was closed March 31 when ISU President Gregory Geoffroy instructed Dean Wendy Wintersteen of the College of Agriculture and Life Sciences to name an interim to serve over the course of the next academic year until a new search is organized.

WORK BEGINS ON 19 NEW GRANT PROJECTS

GRANTS (continued from page 1)

Another project will look at the feasibility of forming a specialty food cooperative for northwest Iowa farmers. In northeast Iowa, a grant will fund evaluation of the impact of regional food system efforts over the past 10 years on farmers in Black Hawk and surrounding counties.

"This new set of projects tackles key challenges that prevent Iowa farmers from taking advantage of new market opportunities," said Rich Pirog, associate director and initiative leader.

Pirog said that inefficient production processes often pose challenges for growers interested in scaling up their operations. A two-year grant will look at some of those issues related to transplant production systems, already used by large-scale vegetable growers in the upper Midwest. Pirog said the goal of the project is to develop an on-line tool to help growers make appropriate investments in systems that will grow and adapt as market opportunities develop.

New work in ecology

Six new grants will begin work in the Center's Ecological Systems Initiative. Topics range from extended crop and biomass rotations to the interaction between buffers and field tile drainage.

Three projects will focus on grazing systems, including a two-year experiment on "mob grazing" by Iowa State animal science professor Jim Russell. At the Whiterock Conservancy in central Iowa, forage quality data will be collected on restored natural grasslands as part of a project to optimize grazing as a restoration management tool. The third grazing project, which includes a carbon "snapshot" of grazing lands, relates to previously supported research by

Iowa State's Patch-Burn Grazing Team that works in southern Iowa.

"We hope to be able to immediately apply what we learn to actual farms," said initiative leader Jeri Neal. "Our goal is to identify management and tools that are more productive and profitable yet provide the diversity and resilience needed to take better care of our soil and water resources."

Other topics

The Policy Initiative will sponsor one new project, a study of feed-in tariffs, a policy mechanism that could boost renewable energy production on Iowa farms. The study will consider the impacts of such tariffs used in other parts of the country, and the effects they could have on Iowa farmers and

the utility companies that serve them.

Two new grants include elements from all three Leopold Center initiatives. A planning grant will be used to develop a strategy for increasing availability of farmland to beginning farmers and immigrant farmers, and possibly form a new Beginning Farmer Working Group. Researchers from Iowa State and the University of Iowa will work together to explore the interplay among climate shift and management practices.

 www.leopold.iastate.edu

Grant project descriptions:
www.leopold.iastate.edu/compgrants/compgrants.html

Map showing grant locations:
www.leopold.iastate.edu/compgrants/county.html

2010 new Leopold Center grant projects

- Building a Food System Framework to Advance the Health of Iowans
- Engaging Community Planners with Local Food Systems Producers to Integrate Local Food Systems into Community Plans and Policies
- Evaluating the Impact of Regional Food System Work on Growers
- Experiential Educational Engagement with Working Groups
- From Farm to Market in Northwest Iowa
- Impacts of GAPs and Post-harvest Handling Practices Certificate Training
- Improving Veterinary Care for Organic Livestock Producers
- Mapping Potential Foodsheds in Iowa: A System Optimization Modeling Approach
- Transplant Production Decision Tool for Vegetable Producers
- Transitioning the Pork Niche Market Working Group to Self-Sufficiency
- Defining the Grazing Season of Restored Natural Grasslands
- Impacts of Conventional and Diversified Rotation Systems on Crop Yields, Profitability, Soil Functions and Environmental Quality
- Increasing Carbon Sequestration of Working Prairie
- Reconnecting Iowa Riparian Buffers with Tile Drainage
- Transitioning to Ecologically Functional Production Systems
- Use of Mob Grazing to Improve Cattle Production, Enhance Legume Establishment and Increase Carbon Sequestration in Iowa Pastures
- Renewable Energy Feed-In Tariffs: Potential Opportunities for Iowa's Small Farmers
- Exploring the Role of Multifunctional Agriculture on the Future of Agriculture
- Toward a New Homestead Act: Designing a Farmstead Transfer and Leasing Program



TOWARD A SUSTAINABLE

Future

Some things are priceless

As we slowly come to appreciate our embeddedness within the ecosphere, we become mindful that what sustains us is not our dazzling industrial output but what we don't very often well understand. Looking back on our journey of knowledge accumulation... we finally realize that the context for our existence is better defined by an understanding of ecology, rather than industry. – Wes Jackson, The Land Institute

In their book, *Priceless: On Knowing the Price of Everything and the Value of Nothing*, economist Frank Ackerman and legal scholar Lisa Heinzerling make a compelling case for the assertion that the true value of some things, such as life, health and ecological resilience, cannot be reduced to statistical evaluation. Consequently, regulating human activities by means of cost/benefit analysis in an effort to protect human or ecological health is deeply flawed. They point out that “In practice, most cost-benefit analysis could more accurately be described as ‘complete cost/incomplete benefit’ studies... many important benefits cannot be meaningfully quantified or priced, and are therefore implicitly given a value of zero. Thus, despite the common claims that cost-benefit analysis is philosophically and politically impartial, its very methodology systematically disfavors protections of goods that, like health and environmental protection, are priceless.”

They argue, therefore, that since we are using statistical cost/benefit analysis to evaluate something that is priceless, “there is no hope of waiting for definitive proof and scientific consensus on the effects of all the health hazards of modern life” and that we must therefore begin to act in a “precautionary manner.”

Ackerman and Heinzerling's assertion that scientific certainty based on statistical analysis is impossible in a world that operates on incomprehensible, ecosystemic complexity is corroborated by practical experience. James Davidson (Emeritus Vice President for Agriculture and Natural Resources, University of Florida) years ago articulated some of the past miscalculations of agricultural sciences using such statistical analyses. Davidson pointed out that:

With the publication of Rachel Carson's book entitled Silent Spring, we, in agriculture, loudly and in unison stated that pesticides did not contaminate the environment—we now admit that they do. When confronted with the presence of nitrates in groundwater, we responded that it was not possible for nitrates from commercial fertilizer to reach groundwater in excess of 10 parts per million under normal productive agricultural systems—we now admit they do. When questioned about the presence of pesticides in food and food quality, we assured the public that if a pesticide was applied in compliance with the label, agricultural products would be free of pesticides—we now admit they're not.

In the light of the challenges posed by these observations, it seems puzzling that eminent scientists still make statements such as the one in the February 12, 2010 issue of *Science* magazine implying that we now *know* that transgenic crops are safe because “The world has consumed GM crops for 13 years without incident.”

What we actually *know*, from bitter experience living in a complex ecosystemic world, is that it often can take more than a lifetime to reach scientific consensus establishing the links between certain activities and human health—such as the link between smoking cigarettes and lung and heart disease.

So in the interest of sustaining what Aldo Leopold called “land health,” which he described as the biotic community's “capacity for self-renewal,” how can we change our culture of science and economics to better serve those vital, long-term interests?

Two strategies, one from the sciences and one from the arts, recently have been suggested.

The first comes from ecologist Daniel A. Fiscus in “The Ecosystemic Life Hypothesis,” a delightful, brief article to be published in the *Bulletin of the Ecological Society of America*. Fiscus draws on the sciences of ecology and evolutionary biology to remind us that our world does not operate “as fundamental (and indivisible) units of life,” but rather as ecosystemic units in which “sustained life is a property of an ecological system rather than a single organism or species.” (Morowitz, *The Beginnings of Cellular Life*, 1992 Yale University Press). This shift in our thinking from an industrial to an ecological paradigm could guide changes in the culture of science to better serve the long-term interests of sustainability. [Find the complete article at: www.calresco.org/fiscus/esl.htm.]

The second strategy comes to us from poet, farmer and essayist Wendell Berry. In his new book, *Leavings: Poems* (Counterpoint Press, 2009), Berry suggests that naming those things that we could potentially harm by our activities (rather than doing a cost/benefit analysis) might lead to more thoughtful, cautionary action. I heartily agree.

Questionnaire by Wendell Berry

1. How much poison are you willing to eat for the success of the free market and global trade? Please name your preferred poisons.
2. For the sake of goodness, how much evil are you willing to do? Fill in the following blanks with the names of your favorite evils and acts of hatred.
3. What sacrifices are you prepared to make for culture and civilization? Please list the monuments, shrines, and works of art you would most willingly destroy.
4. In the name of patriotism and the flag, how much of our beloved land are you willing to desecrate? List in the following spaces the mountains, rivers, towns, farms you could most readily do without.
5. State briefly the ideas, ideals, or hopes, the energy sources, the kinds of security, for which you would kill a child. Name, please, the children whom you would be willing to kill.

[Reprinted with permission; Published by Counterpoint Press © 2009 by Wendell Berry]

Wendell Berry

Workshop attracts big crowd to learn about cover crops

If turnout at the annual workshop of the Midwest Cover Crops Council is any indication, the use of cover crops has a bright future. More than 120 people from 13 states and provinces attended the March 3 event and nearly half were farmers, including some who had never used cover crops in their operations.

The workshop was hosted by the Leopold Center in partnership with the USDA's National Laboratory for Agriculture and the Environment in Ames, Practical Farmers of Iowa and the USDA's Sustainable Agriculture and Research Education (SARE) program.

Participants were as varied as the practices used in cover cropping. They included large cash-grain farmers, livestock producers and graziers, as well as farmers growing vegetables on very small farms. So it was with keen interest that they listened to researchers present some of the latest findings on these practices, and to farmers who shared practical experiences with managing cover crops, which included mixing cover crop seed with manure slurry applied to fields, modifying equipment, and tracking the many benefits of using cover crops.

Southeast Iowa farmer Steve Berger planted 1,000 acres of rye on his farm in 2007, and says that it works well with no-till operations to prevent soil erosion and encourage root growth.

"We get a tremendous root system out of rye and the corn roots follow them down," Berger said. "If you get those corn roots to go down just one foot more, that's two inches more of available moisture and in some years two inches is a big deal."

In western Iowa, Ron Rosmann of Harlan uses cover crops for organic certification in his 600-acre diversified operation. Most recently, cover crops such as buckwheat

provide additional forage for his livestock herd, half of which is pasture-fed. Besides providing ground cover, Rosmann said cover crops sequester carbon, provide nutrients for the next crop and have increased soil organic matter and soil quality since he started planting cover crops in 1984.

Another convincing recommendation came from Story County farmer Gary Guthrie, who converted two acres of his family's corn-soybean farm into a garden that supplies a 74-member Community Supported Agriculture operation. "When I started farming in 1998, I could not have imagined how productive my soil could be," he said. "Cover crops have been the key to soil building, and disease and weed control."

Guthrie said at first he could expect a 300 square-foot bed to produce about 100 pounds of carrots. However, as soil quality increases he also has increased production, and under the right conditions some beds have produced more than 450 pounds of carrots.

USDA plant physiologist Tom Kaspar helped organize the workshop and said he was pleased with the interest among the participants. He says that the most valuable aspect of the meeting was the opportunity for farmers, extension educators, researchers and agency personnel to discuss cover crops and ask questions. "Cover crops are a long-term investment and require a different approach in an operation," he said. "People are more at ease asking questions and there's a lot we can learn from one another."

The Leopold Center, PFI and USDA-ARS coordinate the Iowa Cover Crops Working Group, which works with the Midwest Cover Crops Council and the Green Lands, Blue Waters initiative to improve water and soil quality.

 www.leopold.iastate.edu

Workshop presentation materials:
www.mccc.msu.edu/MCCCmeeting.html

Cover crop resources:
www.leopold.iastate.edu/research/eco_files/cover_crops.htm

New tool in the works

The Midwest Cover Crops Council has been gathering research-based information and experiential data from farmers over the past two growing seasons to create a new web-based Cover Crop Decision Tool. The tool, to be launched later this year, will help users determine appropriate crops, planting times and other practices based on their needs and geographic area.



Far left: Gabrielle Guthrie works in a cover crop of canola mustard in Story County.

*Left: Ron Rosmann in a field of buckwheat used as a cover crop.
[Photo courtesy Practical Farmers of Iowa.]*

Above: Steve Berger shows the root growth from a winter rye cover crop.



AMERICA'S NEW FARMERS: WHERE DO WE FIND THEM AND HOW DO WE HELP THEM?

NEW FARMERS (continued from page 1)

America's next generation of farmers."

The Leopold Center was one of the conference sponsors, through funds from the Policy Initiative that support an ongoing land tenure and sustainability project at Drake University. Center director Jerry DeWitt moderated a lively panel, "Hearing from New Farmers – What Critical Obstacle Do They Face?" The panelists argued that the government needed to invest in farms, not just in farm products (commodities), and reframe the job description to make farming more appealing to young people. Having health insurance and retirement benefits available would make farming a far more attractive career choice.

Speakers agreed that the nation lacks an overarching public policy on land access, tenure and sustainability. Regional variations can be significant, according to the parade of new farmers from New England, California, Kansas, Oregon and Iowa that the event showcased.

"My goal was to use the 'power to

convene' to organize a national event to generate a more robust discussion of new farmer issues," Hamilton said. "I believe we accomplished these goals and in so doing tapped a rich vein of bright, energetic young people from across the nation who want to be part of America's food system."

There was no shortage of ideas for enticing and supporting new and transitioning farmers to repopulate the stagnating countryside. Suggestions ranged from New Farmer Agents, a Farm Corps (similar to Ameri-Corps, only for national service in rural areas), and more government assistance/incentives to help retiring farmers shift land ownership, to providing broadband Internet access for all rural areas. Aspiring farmers need mentors, either through apprenticeship opportunities or via land-link programs that encourage land transfers.

With significant amounts of land coming out of the Conservation Reserve Program, would land contract programs be the best way to channel some of that land to new farmers rather than to expand already-large operations? What about college loan forgiveness programs for those with college debts who want to farm?

A panel on "New Farmer Communities," moderated by Janie Simms Hipp, senior advisor to USDA Secretary Vilsack for tribal relations, gave the audience a refreshing view of what America's future farm population might look like. The executive director of the Yale Sustainable Food project told about channeling some of Yale's \$8 million annual food budget to local farmers, much to the delight of university food service chefs. A Hopi farmer from Arizona explained how they "dry" farm sustainably with only six to 10 inches of rain annually. An African-American family farmer from Arkansas lamented the gap between profits for white (\$300/acre) and black (\$152/acre) farmers, and suggested a new mix of tax credits and policies to help bridge the gap. A Latino farmer from the Central Valley of California joined

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Podcasts, presentation materials, survey results, other resources from the event:
www.law.drake.edu/centers/agLaw/?pageID=beginningFarmers

with the director of the ALBA project to explain their successes in training immigrants to start farming and succeed with small acreages and modest investments.

Weldon Sleight, a Nebraska agricultural college dean, argued that land ownership is the key to keeping kids on the farm. His technical institute in Curtis focuses on an entrepreneurship program that teaches students the art of ownership by partnering with businesses and farmers. The students learn how to "do business" thanks to the school's 100-Cow Program and the 100-Acre Program. Their school experiences make it easier for them to get FSA loans later on.

Bill Even, the South Dakota Secretary of Agriculture and a Drake agricultural law school graduate, argued for the need to "connect society to the soil." He preached a message of positive vibes: Diversity is needed, welcome all to agriculture. Don't badmouth anyone or any sector of agriculture. Say "yes, if" not "no, because." He noted that current regulations need to be retrofitted to accommodate the unique needs of new farmers.

Key points from panels

- Policy reforms need to acknowledge differences in agriculture, and not increase disparities.
- Policy solutions must be specific to address specific challenges.
- Farmers need to get involved in creating policy solutions by serving on local boards, state technical committees, review panels, etc.
- Create incentives for landowners to sell or lease to beginning farmers.
- Increase regional and community cooperation. Recognize farms as businesses and employers in community development efforts.
- Engage more non-USDA agencies (such as the Department of Labor) to assist beginning farmers.
- Make the certification process less cumbersome for beginners.
- Emphasize rural-urban interdependence, focus on the idea that both groups share space in one state.



Above: Leopold Center Director Jerry DeWitt (far right) moderates a panel discussion. Below: The team of Drake Agricultural law students who helped with the forum (from left): Emily Zerkel, Michael Traxinger, Brooke Miller, Kale Van Bruggen, Timothy Reilly, Alli Condra and Elizabeth Dooley.



Unusual methods yield valuable data for cattle producers

By RUSS HINKELDEY, Leopold Center Communications Intern

When I was told that someone put GPS collars on cows and I'd be writing about it, I wasn't sure what was in store. Having grown up on a farm, I've seen how global positioning systems are used in planting, spraying and harvesting. I've even used it to find new restaurants, but cattle?

Iowa State animal science professor and researcher Jim Russell has a long history of collaboration with the Leopold Center. His work covers rotational grazing, factors that contribute to successful management and profitability, as well how to maintain water quality in pasture-based production systems. His most recent competitive grant project looked at cattle movements and preferences in a pasture, and GPS collars were the best way to keep track of them.

Recommendations for cattle producers

Although cattle don't spend as much time in the water as previously thought, they do tend to spend more time in water when temperatures rise. These suggestions are based on Russell's previous research, summarized in a three-part series, *Guide to Managing Pasture Water*. Following these recommendations (and considering specific characteristics of the pasture) can greatly reduce the risk of stream pollution.

- Provide access to water away from the stream. This gives cattle an option and can reduce the amount of time they spend in the stream.
- Shade in the pasture's uplands, away from the stream, will help cool cattle and reduce time spent around the water source.
- Supplements such as mineral blocks should be placed far from the stream because nutrients can build up and get into the stream via runoff.
- Stabilized water source access sites with exclusion fencing will control where cattle may congregate to get water, and also provide crossings for animals and truck or machinery traffic.
- Riparian buffers (areas of grasses, shrubbery and trees fenced from fields and pastures) also can reduce pollution risks as well as provide wildlife habitat.

The experiment called for recorded data on movements of two or three cows in eight different pastures on five cow-calf farms in the Rathbun Lake watershed area. Each cow wore a GPS collar for two weeks during the spring, summer and fall of 2007, 2008 and 2009. Temperature and humidity also were recorded.

"We wanted to find out how much time cattle really were spending near waterways and if they were, why," said Russell. "After three years, we noticed that they don't spend nearly as much time in or near the water as people generally think."

The location of the cattle in relation to creeks or other sources of water is very important information for the Leopold Center's grazing research program. It has been assumed that cattle in pasture-based systems are large contributors to the levels of sediment, nutrients and pathogens found in surface water.

Having only a limited amount of experience with cattle as a child (does riling my dad's Charolais bulls count as experience?), I had to ask how they got the collars on the animals in the first place.

"It really wasn't that different from most cattle handling," said Doug Bear, graduate research assistant on the project. He is from southern Iowa near the research sites, and had prior relationships with some of the producers, all of which helped the project run smoothly.

 www.leopold.iastate.edu

Guide to Managing Pasture Water:

- Stabilized Stream and Pond Access Sites
- Streamside Buffers
- Off-Stream Water, Shade and Nutritional Supplementation to Modify Animal Behavior

www.leopold.iastate.edu/research/eco_files/resources.html

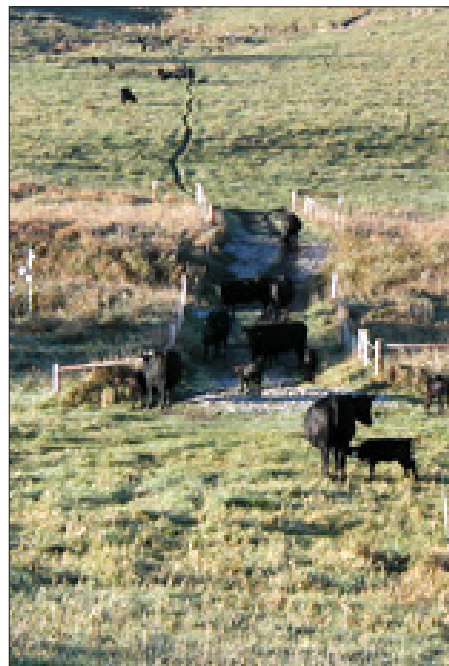
"The producers did most of the handling as that was their major concern about the project," Bear said. "We put the cows into a chute and fastened on the collar. We tried to avoid any cattle that might jump the chute."

I also was interested in learning about the biggest obstacles for getting farmer cooperators for this project. I've known a few cattle and pork producers (probably related to me) and one thing I've noticed is that telemarketers and researchers don't often make it to the top of the priority list.

"They were a little hesitant because of the amount of handling," Russell said. "We were limited by the two-week battery life on the GPS receivers in that respect. Several producers told us they would love to do it if we could put the collars on in May and take them off in September."

But the effort paid off. Findings showed that the amount of time cattle spend in water varies by specific pasture conditions. For ex-

GRAZING PROJECT (cont. on page 9)



Above left: These stabilized stream crossings give cattle limited access to water.
Above right: Cow with GPS collar at a research site near Rhodes.

Speaking of peaches and prose, Masumoto charms Shivers Lecture audience

By MARY ADAMS, Outreach and Policy Coordinator

David Mas Masumoto is a third-generation farmer, and his daughter aims to become the fourth generation in his family to nurture the organic peach trees on their farm near Fresno, California. Even though his crops are different than those of Iowa farmers, Masumoto delivered a variety of amusing, thoughtful and provocative messages to a rapt audience at the 2010 Shivers Memorial Lecture February 28 at Iowa State's Memorial Union.

Masumoto, the author of eight books on his farming experiences including the highly-praised *Epitaph for a Peach*, combines the hard truths of farming with a lyrical rendition of the rewards that sustain farmers. Each of his stories carries some baggage from his farm life. As he put it, "The best farms constantly go through transformation. We are trying to grow more than produce." His motto, inscribed in Japanese characters in the books he autographed for eager readers, is simple but telling: Fall down seven times, get up eight times.

He talks about his peach crops with a rueful but deep-seated affection, recalling the once popular Elberta variety that "bruised when you stared at it." This rendered it unsalable in the modern food system where shelf life is a major consideration. Masumoto commented, "We've been insulted by the cheap food system." He described his frustration at trying to sell his delicate, succulent, perfectly ripened peaches to commercial

buyers who are interested in only three things: size, color and cosmetics. He says he farms in "gourmet dust" to sustain those 80 acres of gorgeous peach trees.

The Elberta Peach Tree Adoption program on his "public" farm has been a way to connect his customers more intimately with the natural rhythm of the growing season. Prospective adoptive peach parents fill out a questionnaire, and are asked how they will use the 500 pounds of peaches generated by "their" tree. Some were insistent that Masumoto give them an exact date when the peaches would be ripe so they could put it on their calendars. His response, "We don't do Caesarian peaches." Those adopted peaches will be ready sometime in late July or early August, and the adoptive parents will have to decide just when to pluck them from the branch—a good lesson on the farmer's eternal dilemma of when to harvest.

He read several passages from his newest book, *The Wisdom of the Last Farmer*, which described how he and his family helped his father, who suffered a stroke, return to the farm life

he loved. "We farm from memory," says Masumoto, as he explained why in order to be successful, his father's physical therapy had to be conducted on uneven surfaces similar to the farm's earth underfoot rather than smooth urbanized surfaces.

The Masumoto family's backstory is equally compelling. His grandparents, both second sons, came from Japan 100 years ago and were able to rise from farm workers to landowners. This came despite their being relocated to a camp in Gila Bend, Arizona for four years as part of the wartime Japanese-American internment program.

Third-generation peach farmer David Mas Masumoto.



UNUSUAL METHODS YIELD VALUABLE DATA

GRAZING PROJECT (continued from page 8)

ample, size and shape are most important and smaller pastures generally mean more time in the water. But if all pastures are the same size, the shape will determine how long animals stay in the water. If all pastures are similar in size and shape, then shade placement becomes the variable that influences more or less time in the water.

"It seems pretty obvious, but with the

different-sized pastures we had to begin with, we didn't see any differences," said Russell. "When we controlled for different variables, it was pretty easy to see that size and shape of the pasture can greatly reduce the risk of water contamination."

When asked what he had learned that producers could use right now, Russell's answer was so direct that I thought for a second my dad had stepped into the room.

"Creating buffer strips between pastures, providing off-stream water sources or stable crossing points, and using rotational grazing are good places to start," he said. "The size and shape of pastures does matter, and cattle don't spend as much time in the water as we

hypothesized so other factors may be contributing to the water quality, such as wildlife or even septic tank leakage. Sediment in the water is caused more by the hydrology than by cattle kicking it around."

Russell Hinkeldey is a senior in journalism and public relations at Iowa State University.

He grew up on a farm near Alta in northwest Iowa, where his family has a corn-soybean and nursery-to-finish hog operation. After graduation he will be in training as a U.S. Army Officer Candidate, and hopes to find agricultural-related employment in communications after his service.



Regional report shows economic potential for building local produce industry

The Leopold Center coordinated an effort that documents potential economic values from increasing production and marketing of fruit and vegetables in the upper Midwest to help meet consumer demand for locally grown food.

The new study, “Selected Measures of the Economic Values of Increased Fruit and Vegetable Production and Consumption in the Upper Midwest,” was conducted by Iowa State economics researcher David Swenson. He considered two scenarios and used data from Iowa, Illinois, Indiana, Michigan, Minnesota and Wisconsin. The Leopold Center has worked with Swenson to do similar analyses for Iowa and multi-county areas in northeast, southwest and southeast parts of the state.

“This is the first multi-state study in the Midwest to examine potential economic benefits from increased regional fruit and vegetable production and marketing,” said Center associate director Rich Pirog, who coordinated the work with regional partners. “Since the same assumptions were made across all of the states in the study, we can examine both state-level and regional potential economic values.”

In the first scenario, increased production of 28 fruit and vegetable crops in those six states could mean about \$882 million in sales at the farm level, more than 9,300 jobs and about \$395 million in labor income. An estimated 270,025 acres would be needed to produce those crops, roughly equivalent to the average amount of cropland in one of Iowa’s 99 counties.

Although relatively few acres would be required to significantly increase fruit and vegetable production in the region, the study found that the job gains also could be significant, compared to the number of jobs currently generated by the same amount of land under conventional agricultural production.

In Iowa, increased fruit and vegetable production could mean farm-level sales of about \$61.4 million, with a potential retail value of \$230.1 million and a total of 657 farm-level jobs, compared to the 131 jobs currently generated from this acreage under corn and soybean production.

One of the key assumptions in the study was that farmers in the region could grow enough of 28 kinds of fruits and vegetables to meet consumer demand, based on population, during a typical growing

season (about four months of the year) and longer for crops that could be stored, such as onions or garlic. The study did not include potatoes, sweet corn, pumpkins, apples, grapes, cranberries and cherries because ample supplies of those crops already are being grown in the region.

Another key assumption was that half of the increased production would be sold in producer-owned stores, resulting in additional impacts on regional economies. The six-state region would need about 1,405 establishments staffed by 9,652 people earning \$287.64 million in labor incomes. The study indicated that Iowa would need 98 establishments that would employ 672 people.

The study included a second scenario that looked at 28 metropolitan areas in the six-state region with populations that exceed 250,000. Swenson’s previous modeling work has shown that potential demand from metro areas for locally grown food could nearly triple fruit and vegetable production in surrounding rural communities, and those regions often cross state lines.

This analysis estimates the total value of fruit and vegetable production in each scenario, and does not account for existing production. To determine a net increase in jobs or labor incomes, additional research would be needed. Swenson noted that the region has the capacity to grow enough fruits and vegetables to reach targets outlined in the study.

Swenson’s work was funded primarily by a Leopold Center competitive grant. Other organizations provided funds to purchase state-level data sets used in the analysis. Among them were the Fresh Taste Initiative in Illinois, the Institute for Agriculture and Trade Policy, the Minnesota Institute for Sustainable Agriculture at the University of Minnesota, Land Stewardship Project, Center for Integrated Agricultural Systems – University of Wisconsin, the Michael Fields Agricultural Institute, Indiana Cooperative Development Services, Michigan Food and Farming Systems and the C.S. Mott Group for Sustainable Food Systems at Michigan State University.



www.leopold.iastate.edu

On the web:

www.leopold.iastate.edu/research/marketing_files/midwest.html

Related reports:

www.leopold.iastate.edu/research/marketing_files/economic.html

One tale of success

“We like to say that we grow ordinary food for ordinary people.” – Anthony Flaccavento, keynote speaker at the Leopold Center’s April 1 Marketing and Food Systems Workshop

Flaccavento helped organize a network in the Appalachian region of Virginia and Tennessee that has about 60 small and midsize fruit and vegetable growers who market two dozen fresh produce items under the Appalachian Harvest brand to nearly 600 supermarkets. The group operates a 15,000 sq. ft. processing and storage facility and uses two delivery trucks.

“Moving to fruit and vegetables or a new kind of meat product sounds like an enormous risk—but we’ve been able to fairly successfully reduce that risk with solid, good-sized markets, diversity of products and a lot of educational, technical and peer support.”

The workshop highlighted projects supported by the Leopold Center’s Marketing and Food Systems Initiative and the Value Chain Partnerships project. Listen to Flaccavento’s presentation and get workshop materials at: www.leopold.iastate.edu/research/marketing_files/workshop10.html.

More on the web:

How produce clusters could help



High-tunnel greenhouses like this one near Fairfield help farmers extend the growing season.

Leopold Center celebrates 'Neighbors' in new annual report

Iowans pride themselves on being good neighbors. The importance of personal connections in Iowa agriculture is highlighted in the 2008–09 Leopold Center annual report. The focus on “Neighbors” reflects the Center’s commitment to serve Iowans engaged in agriculture at every level—researchers, farmers, community groups, government leaders, conservation workers—in every part of the state.



Readers of the new report will find detailed descriptions of the projects being done by the Center’s three research initiatives in ecology, policy and marketing

and food systems. Iowans came together to work on fronts as varied as the Midwest Cover Crops Council and the Regional Food Systems Working Group, just two of the opportunities the Center provided for making a difference in the state’s agricultural sector.

The Iowa Learning Farm is an important partnership for the Leopold Center that empowers farmers to pursue a culture of conservation and offer examples of successes to their neighbors. Practical Farmers of Iowa received support for their expansive field days program to share information with surrounding farmers. Several graduate students in ISU’s sustainable agriculture program received funds from Leopold Center assistantships to complete their degrees. New work with Drake University’s Ag Law School has yielded practical information for farm owners and tenants on



land tenure, leases and sustainability.

Director Jerry DeWitt recalls the highlights of his 38-year career with Iowa State, many of which centered on his rewarding interactions with his Iowa neighbors. Distinguished Fellow Fred Kirschenmann used his connections with Stone Barns Center in New York to promote “foodsheds,” an urban neighboring concept taking root in several large cities. The Spencer Award went to Steve Reinart, a Carroll County grazer who created Reinart’s Bend conservation area along the Raccoon River, saving the land for his neighbors.

To get a copy of the 40-page annual report, contact the Center at (515) 294-3711.

University of Iowa appoints noted geographer to Leopold advisory board

George Malanson has studied biodiversity and land use in the rain forests of Ecuador, the rice fields of northeastern Thailand and the alpine tundra of the Rocky Mountains. And he would like nothing better than to help put a little biodiversity back into his home landscape.

Malanson is the newest member of the Leopold Center Advisory Board, joining biology associate professor Erin Irish to represent the University of Iowa on the board.

He holds the Coleman-Miller Professorship, the highest honor in the University of Iowa’s Department of Geography. In addition to teaching a variety of undergraduate and graduate classes, Malanson conducts research that integrates landscape ecology, climate change and geography. His 1993 book, *Riparian Landscapes* (Cambridge University Press), largely based on research in Iowa, is a standard textbook in landscape ecology programs and among professionals.

“My research has had a continuing focus on biodiversity,” he said. “Given that most of my work has been elsewhere, I look forward to making a local contribution by lending a larger geographical perspective to the work of the Leopold Center.”

Of particular interest is a project in southern Illinois, which looked at carbon seques-

tration and alternative land uses. “The aim was to contribute to a model of choices of land use that would be sensitive to carbon policy as well as to commodity prices,” he explained. “The price of carbon on the Chicago exchange is going to have to move hugely to change land use.”

Malanson also has studied the dynamics of land use change in northeastern Thailand where mechanization has altered the land, culture and farming practices. Twenty years ago, farmers would have planted and harvested rice by hand, which has given way to nearly 100 percent mechanization within the past 10 years. At the same time, he said, the choice of cultivar has narrowed so that everyone prefers to plant one variety of rice.

Malanson has worked on a number of research grants with the National Science Foundation, NASA and the U.S. Geological Survey. He is a co-author of a book that documents climate change in Glacier National Park, *The Changing Alpine Treeline* (2009 Elsevier Science). He is currently on the editorial board of three technical journals.

Malanson’s ties to Iowa also are strong. His wife, Mary McCoy Malanson, owns a 60-acre Marion County farm that is part

of the land that has been in her family about 130 years. Although the land is now rented and in CRP, Malanson said he believes that sustainability is a worthy goal for Iowa landowners of all levels of involvement.



George Malanson checks a subalpine fir at tree line in Glacier National Park in Montana.



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Highlight Events

More details, events

Check Leopold Center Web calendar:
[www.leopold.iastate.edu/news/
events.htm](http://www.leopold.iastate.edu/news/events.htm)



Iowa State University agricultural engineer Lie Tang (right) listens to suggestions from Mary Ellen Miller to improve an automated weeding machine for produce crops that will be tested in the field this season. He has a two-year Leopold Center grant to develop the prototype, which was on display April 1 during the Center's Marketing and Food Systems workshop.

May 2 – An Afternoon with the Author: Fred Kirschenmann Sunday, May 2, 2 p.m., Ames Public Library.

Join us for a reading by Leopold Center Distinguished Fellow Fred Kirschenmann from his newest book, *Cultivating an Ecological Conscience: Essays from a Farmer Philosopher* (University Press of Kentucky 2010). The book is a collection of Kirschenmann's writings on farming, philosophy and sustainability over a 30-year journey toward what has been called a new agrarianism. Kirschenmann splits his time among Iowa, his family's North Dakota organic farm and New York, where he is board president of the Stone Barns Center for Food and Agriculture.

Sponsors are the Leopold Center and Ames Public Library; Wheatfield Cooperative Grocery of Ames will provide refreshments. Co-sponsors: AgArts, MFA Creative Writing and the Environment Program at Iowa State University, the ISU Graduate Program in Sustainable Agriculture Student Association, Story County Soil and Water Conservation District, ISU Department of Natural Resource Ecology and Management, Squaw Creek Watershed Coalition, Thousand Friends of Iowa, Practical Farmers of Iowa, Women, Food and Agriculture Network, Iowa Water Center and the Iowa Wildlife Center.

