



A NEWSLETTER OF THE LEOPOLD CENTER FOR SUSTAINABLE AGRICULTURE VOL. 18 NO. 2 SUMMER 2006

2006 Spencer Award goes to Iowa farm family

Ron and Maria Vakulskas Rosmann, along with their three sons, will be honored as recipients of the 2006 Spencer Award for Sustainable Agriculture. The Rosmanns operate a 600-acre, diversified organic farm near Harlan in Shelby County. They have been leaders in sustainable agriculture, hosting visitors from all over the world on their farm.

Ron is a founding board member of the grassroots organization, Practical Farmers of Iowa, and is a former president and board member of the California-based Organic Farming Research Foundation. Maria operates the family's private label, direct market organic meat business, which they started in 1997. They also market organic pork and beef to Organic Valley Family Farms.

Their sons actively participate in the farming operation. David, 24, is a research assistant at the Iowa State Univer-

sity organic agriculture lab. Daniel, 22, returned to the farm after earning his ISU agronomy degree. Mark, 20, is a junior majoring in agronomy and history.

The Rosmanns have received local and regional soil conservation awards for their use of buffer strips, terraces, windbreaks, rotational grazing and development of wildlife habitat.

The Spencer Award recognizes farmers, researchers and educators who have made a significant contribution toward the stability of mainstream family farms in Iowa. The award honors Norman A. and Margaretha Geiger Spencer, who farmed near Sioux City for 40 years. It includes a \$1,000 gift and has been presented annually since 2002. The award is funded by an endowment from the Spencer family and is administered by the Leopold Center.

The award will be presented at the Iowa Organic Conference November 20.

Field peas, pigs make good combination

In the search for a third crop to bring profits as well as diversity to Iowa's two-crop system, one new crop has surfaced as a worthy candidate: field peas.

A project launched in 2004 by the Leopold Center's Ecology Initiative is demonstrating favorable economics for farmers who also raise hogs. Field peas are a short-season crop that can be grown either after a wheat crop or before a late planting of soybean. Peas are used in other parts of the world as food for pigs as well as in human diets.

"It's hard to put an exact value on what it's worth for you to grow field peas, kind of like hay crops, but we thought that if we could save producers \$2 a ton in

livestock rations, that it would be economical for them to grow double-cropped peas with some other crop in their rotation," said Tom Miller, Iowa State University Extension livestock specialist based in Washington County in southeast Iowa. Producers also would see other benefits of longer rotations such as increased ecological diversity to break insect and pest cycles.

"One of the nice things for swine producers is that they always have an empty bin in June or July, when fall- and spring-planted peas are harvested, so they can make good use of their bin

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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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Center begins competitive grant process

The Leopold Center has begun the process that will lead to grants for new research and education projects and will shape the center's work over the next two years.

In June, the Center issued a Request for Pre-Proposals (RFP). Investigators representing any Iowa nonprofit organization/agency and/or educational institution (such as soil and water conservation districts, schools and colleges, and regional development groups) were invited to submit concept papers by August 14.

The pre-proposals will be reviewed by Center staff and Advisory Board members to assess the technical merit and relevance to the Center's mission. Funding for most projects will begin by early 2007.

Interim director Jerry DeWitt said the Leopold Center is especially interested in projects that will enhance Iowa's water quality and protect the state's water resources. In the Ecology Initiative, special



www.leopold.iastate.edu

Read the Summer 2006 RFP:
www.leopold.iastate.edu/research/rfp/2006.htm

emphasis will be given to projects that help integrate grass-based and forage systems with the feedstock needs of the rapidly growing biofuels industry. Marketing and Food Systems Initiative leader Rich Pirog said he wants to focus on projects that research and test new marketing strategies and business structures that allow Iowa's farmers to retain more value.

Another part of the call targeted specific types of dairy projects. The Center wants to address the challenges and opportunities for those farmers beginning or transitioning to dairy enterprises that embody grass-based and/or organic production practices.

New report summarizes work on 21 projects

The work of 21 projects completed in 2005 and 2006 is summarized in the latest *Center Progress Report*, available from the Leopold Center.

The Center provided support for research, education and demonstration projects calculated to help Iowa farmers at all levels with production and marketing issues. Among the project topics were:

- Biological control of the soybean aphid
- How the Conservation Security Program is working
- Managed grazing and water quality
- Supporting direct meat marketing
- Beef cattle feeding in hoop barns
- Tools to help grape growers

Summaries of the projects are contained in an illustrated, 75-page paperback, the *2006 Center Progress Report*. The summaries are condensed from longer, more detailed final reports submitted by the principal investigators.



www.leopold.iastate.edu

2006 Center Progress Report
www.leopold.iastate.edu/research/grants/completed_grants.htm
Or call the Center for a copy,
(515) 294-3711.

"This year we have findings from all three of our research initiatives to share with Iowans," said interim director Jerry DeWitt. "We are looking at practical ways that Iowans can raise and market their crops and livestock in more economical, environmentally sustainable ways."

The Center's research and demonstration efforts were carried out on Iowa farms, at ISU's outlying research farms, and in urban and suburban areas of the state. The report is edited by Leopold Center editor Mary Adams.

Conference workshop support for producers

A limited number of sponsorships are available from the Leopold Center's Grassland Agriculture program for producers interested in attending grazing or forage-related conferences and workshops. Producers must apply for the funds before the conference and be actively involved in forage-related enterprises.

For more information, contact Jeri Neal, Leopold Center Ecology Initiative leader, (515) 294-5610, or get details on the Leopold Center web site:
www.leopold.iastate.edu/research/ecology.htm

q&a

A conversation with interim director Jerry DeWitt



Q. How do partnerships relate to the legislated mission of the Leopold Center? Why are they important?

We, like most Iowans, take both our neighbors and our partnerships seriously at the Leopold Center. Both have immense value and provide the stability, support and synergy that allow meaningful things to happen and unexpected outcomes to emerge.

The Iowa General Assembly in 1987 shared this value when it created the Leopold Center with passage of the Iowa Groundwater Protection Act. In clear language that stated the new center's mission, we were instructed to work closely with ISU Extension to cooperatively deliver findings from our work to all Iowans.

ISU Extension has more than 105 local offices and offers a unique and far-reaching presence to help Iowans get information from the Leopold Center. Our relationship with ISU Extension is one of several key partnerships that the Leopold

Center honors and values. We'll strive to fulfill this important part of our mission.

The other clear signal about partnerships came from the Iowa General Assembly when it mandated the composition of the Leopold Center's advisory board. We have 17 board members who represent an array of interests across Iowa. We have representatives from the three Regents institutions and private colleges and universities, and appointees from farm organizations, state government and other associations. These appointments include people from the Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, State Soil Conservation Committee, Agribusiness Association of Iowa, Iowa Farmers Union, Practical Farmers of Iowa, and the Iowa Farm Bureau Federation.

Our advisory board members offer balance in their broad range of opinions, thoughts and counsel on the work of the Center. We listen carefully and always try to operate with the very best of intentions and do what is needed for Iowa both today and tomorrow. Without the willingness of our partners to speak up and our commitment to listen, the Center cannot be successful and meet the expectations of Iowans.

Q. Outside of these partnerships, what other groups work with the Leopold Center and in what ways?

We have a rich history of partnering on many projects. The Leopold Center has funded more than 350 research and education projects and most, if not all, have involved local partners at the farm, community, county or regional levels. Sharing resources and expertise enhances our investments.

The impact of research sponsored by the Center grows when the work is done with local partners. That's why we scrutinize all proposals for funded work using a framework that relies on local knowledge, groups and connections. We are not al-

ways looking for the best known or largest partner on a project. We want to work with groups and organizations that can get the job done and add lasting value. Local partners are a major key to success.

Q. How do you hope to strengthen existing partnerships?

Existing partnerships are strengthened only by active listening, creating new opportunities for meaningful dialogue, and openly sharing direction and intent. I do not believe that we all must agree on every part of every issue each day. But, I am struck by the fact that we have so much in common with our many partners, and share so many values and needs that beg for our attention across Iowa and in our communities and on our farms.

Q. How do you hope to bring new partners to the work of the Leopold Center?

One of the best ways to bring new partners to the Center is for those of us at the Center and our advisory board to be continually open to the changing landscape of agricultural issues. We need to continually scan for emerging trends and needs both on and off the farm. We also need to seek out others who want to join the dialogue on farm issues, and offer them support and an open ear. Our role is to be at the outer envelope of change, to step forward to consider new ways of doing things, to dream, and to take appropriate steps toward that dream. We need to help make the connections happen.

As always, I am open to your ideas for new partners and partnerships. Send me comments by e-mail, jdewitt@iastate.edu, or call me at the Center, (515) 294-3711.



Practical Farmers of Iowa is a Leopold Center partner with on-farm research, demonstrations and field days. Above, Matt O'Neal (kneeling) shows how soybean aphids are trapped in his study of cover crops, which attract natural predators of aphids and control weeds.

Photo courtesy Rick Exner, PFI.

LARGE, SMALL GROWERS SHOW INTEREST IN ADDING FIELDS PEAS TO ROTATION

FIELD PEAS (continued from page 1)

space,” he added. “By the time they need their bins again in the fall, they’ll have used the peas and emptied the bins.”

Miller is working with ISU Extension crop specialist Jim Fawcett, who is based in nearby Johnson County. Together they are growing different varieties of field peas in several rotations and locations, and using them in swine feeding trials. Their most recent trial was for 1,200 grow-to-finish pigs raised by a large hog producer in Washington County. The project is funded by a three-year Leopold Center grant, matched by USDA-SARE funds.

Peas provide good source of protein for pigs

For the experiment, the pigs were divided into six groups – two as a control, two fed one variety of field pea ration and two fed a second variety of field peas. The researchers replaced roughly 400 pounds of corn and 200 pounds of soybean meal with 600 pounds of field peas. Rations were balanced for nutritional needs of pigs at various weights and adjusted appropriately for protein and energy.

Miller said each pig was weighed individually four times between September 2005 and January 2006 to determine performance. Each pig in the experimental groups consumed an average of 186 pounds of field peas, 260 pounds of corn and 60 pounds of soybean meal, at a per pig feed savings of 67 cents. They estimated a market price for field peas at \$3.50 a bushel.

“We saw no differences in the average daily gain in pigs fed a ration that included field peas,” Miller said. “In fact, when considering feed efficiency the pigs performed as good as or better on those diets than on the conventional rations.”

A field day in mid-June attracted an audience of about a dozen local growers. The event was held at a 20-acre field that had just finished blooming on a private farm near Amana. The field was harvested in early July, followed by an early-maturing soybean variety. Another planting option being investigated is early maturing milo for swine rations.

“There’s really no special equipment needed to grow this crop,” said Fawcett as he walked through field peas, which stood about 30 inches high. “We planted April 5, but last year we planted in the snow in mid-March. They’ll come up as soon as the ground gets to 40 degrees.”



ISU Extension crop specialist Jim Fawcett, left, stands at the edge of a pea field to answer questions at a June field day near Amana.

Fawcett said they are experimenting with both spring- and fall-planted peas. He said peas in one field planted in October grew about twice as tall as the spring-planted peas, and yielded about five bushels per acre more than the spring-planted peas. He said he had hoped that fall-planted peas could be harvested a week or two sooner than spring-planted peas, but this year they both matured at about the same time.

Fawcett said yields on various plots throughout southeast Iowa averaged 30 to 55 bushels per acre in 2005. Yields in 2006 have averaged about 25 bushels per acre. The lower yields in 2006 may be partly due to the later planting date in 2006, and also because of very hot weather in late May when the peas were flowering.

He said chemicals can be used to control weeds, but late-emerging weeds such as waterhemp have not been much of a problem in spring-planted peas. However, waterhemp has been a challenge when the peas are planted in July after a winter wheat harvest. A legume, field peas fix nitrogen for the following crop, which reduces input needs. Peas also can break the insect and pest cycle in the typical corn-soybean rotation.

Two other positive aspects of field peas: the crop is eligible for loan deficiency payments and it is harvested in the summer, about the time when the price for soybean meal usually peaks.

“I’m amazed at the people who’ve approached us on this because it’s been all up and down the scale from small, organic farmers to very large producers who market 10,000 pigs every year,” Miller said.

He said that large hog producers often plant wheat just for a place to apply manure during summer months. Small producers also plant wheat for its high-quality straw, which is used as livestock bedding in hoop barns. In either case, he noted the addition of a crop of field peas can increase profitability because the crop can be fed to hogs with no further processing.

	Costs of production (dollars per acre)				
	Corn	Soybean	Wheat	Peas	Soybean (after peas)
Seed	52	30	18	32	30
Fertilizer	38.90	17	26.24	8.25	17
Land preparation*	20.30	--	--	--	25.95
Chemicals **	35	17	12	16	8
Planting	11.60	12.55	12.55	12.55	12.55
Harvest	24.15	23.40	21.85	21.85	23.40
Lime **	6	6	3	--	3
Insurance	12	9	8.95	--	4.50
Rent/land cost	120	120	60	60	60
Drying expense	14	--	--	5	--
Total costs	333.95	234.95	162.59	155.65	184.40
	Yield (bushels per acre)				
	175	50	60	45	4
	Market price (dollars per bushel)				
	1.90	5.00	2.44	3.50	5.00
	Revenue (per acre)				
Straw	--	--	50.00	--	--
Gross	332.50	250.00	196.40	157.50	200.00
Net	(\$1.45)	\$15.05	\$33.81	\$1.85	\$15.00
			(wheat)		(soybean)
Add. net for double-crop peas			\$35.66		\$17.45

* Corn = deep rip + field cultivation; soybean and wheat = no tillage; spring peas = chisel plow to shred cornstalk and field cultivation.
** Includes costs of application.
These figures do not include government payments; labor is included in production costs.



Agriculture needs a new ethic

We have all heard the refrain, “If it is not profitable it’s not sustainable,” a sad reflection on our priorities. True conservation means caring for things other than ourselves. — Stan Rowe, Home Place: Essays on Ecology

In *The Spirit of the Soil*, Paul Thompson suggests that we have now created a culture which has conditioned farmers to believe in only one ethical principle: produce as much as possible, regardless of the cost. And every attempt to call attention to the need for a different ethic for agriculture, from Aldo Leopold to Wendell Berry, seems to run counter to the industrial economy, which operates on the principle that short-term profitability is the singular objective we must pursue, and that all else will somehow serve the common good.

But it hasn’t worked out that way. There is now considerable evidence that this unchallenged economic principle has failed to deliver. It can be seen in the ruined soil, compromised water quality, changing climate, depleted natural resources, loss of biodiversity, desperate farm families and faltering rural communities.

A new ethic is needed.

In her intriguing book, *The Nature of Economics*, the late Jane Jacobs describes why this industrial production ethic may be causing all this ruination. She points out that our agricultural economy is designed to create “semi-barren” settlements instead of “lush ecosystems.” It seems that a farm ethic based solely on producing as much as possible invites an economy wherein very little “sticks” to the community in which the farm exists, and it rarely produces a farming system in which the community’s ecological wealth is restored rather than exploited.

Here is how Jacobs describes what happens:

... in an American or Canadian rural settlement that concentrates on cash crops, imports can be enormous in proportion to the numbers of workers producing the crops. There is plenty of energy being received from outside; plenty of variety too: expensive farm machines and their repair parts and fuel, trucks, seeds, fertilizer, fencing, maybe irrigation equipment, pesticides, weed killers, construction components for storage bins and barns, and of course consumer goods.

Almost all of the imports are incorporated directly into the work of tilling, planting, tending, harvesting, storing, and transporting the crops to be exported and into feeding, clothing, and sheltering the farmers and their families. Therefore, the passage of almost all the settlement’s imports through its conduit is economically direct and simple – straight through from one end to the other.

In other words, given our “produce as much as possible” ethic, we end up producing only cheap raw materials for export out of our communities and value is added elsewhere. Consequently, very little value remains in the community in which the farming takes place, and there is little incentive to maintain the ecological health of the community.

Jacobs goes on to describe the effect that this “produce at all costs” ethic has on our communities.

Naturally, imports used like this leave behind only a pittance of other economic activity as evidence of their passage: a few routine retail establishments and entertainment or other gathering places, along with basic public services – which may require subsidies from tax yields of more diverse economies. And naturally, most young people who don’t inherit a farm or aren’t attracted to farming have to hunt for work somewhere else.

When we operate from an ethic that leaves little wealth in our communities, and nurtures hardly any incentive to care for the ecological health of our communities, then ruination is the predictable result.

A new ethic is needed.

The late Stan Rowe, a Canadian ecologist whose writings are reminiscent of Aldo Leopold, has poignantly described what is missing in our current agricultural ethic and prescribes an alternative.

The missing concept is the ecological one of landscapes-as-ecosystems, literally “home systems,” within which organisms, including people, exist. We have been taught that we are separate living things, surrounded by other living things, but not so. The realities of the world are ecological systems of which organisms are components and without which no creatures of any kind could ever exist.

The missing attitude is sympathy with and care for the land and water ecosystems that support life. It will come when we make the concept of a planetary home part of our daily thought, part of our hearts and imaginations...

Some may dismiss such an ethical proposal as unrealistic and hopelessly naïve in a world of economic domination and winner-take-all capitalism. And perhaps it is. But it also is unrealistic and hopelessly naïve to assume that we can continue to ruin our ecological and social communities and expect to survive much longer as a species.

A new ethic is needed.

Infusing our culture with a new ethic is, of course, never easy. Cultures create institutions and institutions serve the interests of people in power and generally people in power don’t support change since the current institutions serve their interests. And it is difficult for the powerless – such as farmers and rural communities – to break into that self-perpetuating system. So maybe we shouldn’t waste a lot of our precious time trying.

But we may have another opportunity. Significant changes are

Finding the right fit, support for ag entrepreneurs

By BRANDON SCOTT ISU College of Agriculture Communications Intern

Sustainable agricultural enterprises are just like other business ventures. Whether it's opening an organic creamery or setting up a grass-based beef operation business and agricultural entrepreneurs have at least one thing in common: the need for capital. That's where companies like the ShoreBank Corporation come in.

In a seminar sponsored by the Leopold Center's Marketing and Food Systems Initiative, the presidents of two ShoreBank-affiliated lending institutions explained how their companies work and what each has done in their area. John Berdes, president of ShoreBank Pacific, and Dennis West, president of Northern Initiatives, spoke to a group of approximately 50 people on June 1 in Ames.

ShoreBank

Established in 1994, ShoreBank was the nation's first commercial bank formed to support environmentally sustainable development. ShoreBank Pacific, based in Ilwaco, Washington, started as a joint non-profit project of the ShoreBank Corporation of Chicago and the environmental nonprofit organization, Ecotrust of Portland. Since that time, ShoreBank Pacific has invested more than \$30 million in economic opportunities and environmental restoration and preservation in the Pacific Northwest.

Berdes elaborated on his institution's mission and dedication to the "triple bottom-line."

"Most businesses have a single bottom-line – maximizing shareholder return," Berdes said. "'Triple bottom-line' companies typically manage to achieve three returns: profitability, social return and an

environmental return."

ShoreBank measures its bottom line by looking at three things: traditional financial performance, the dollars they invest in "priority communities" (communities whose median income and housing values are below the state or regional standards), and the dollars they loan to finance activities that contribute to a healthier environment, such as building renovations that reduce energy consumption.

One of the enterprises supported by ShoreBank Pacific through loans is an organic dairy/cranberry farm in southwest Washington. The farm is preserving farming traditions and lands and developing new products and markets. The farm emphasizes a "value proposition" for family farms.

ShoreBank has made loans to a shellfish farm that raises oysters. The Nisbet Oyster Farm in the Willapa Bay of southwest Washington employs numerous immigrants and pushes for high local water quality standards. The local water quality has a direct impact on the Nisbet bottom line; if water quality drops, oysters may become unfit for consumption.

Nisbet also promoted an effort to replace nearby septic systems, which were outdated, and Shorebank helped with funding. By replacing the septic systems, Shorebank was able to meet their "triple bottom-line" by helping to protect water quality. Local properties increased in value because of updated septic systems, oyster farms were able to increase profits due to a cleaner water source, and the environment was improved by removal of leaky septic systems.

Berdes described Shorebank's partnerships with its clients as "a portfolio of relationships, not a portfolio of loans," that

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Materials from the presentation:
www.leopold.iastate.edu/news/pastevents/shorebank/shorebank.htm

List of certified CDFIs:
www.cdfifund.gov

serve as a guideline of how lending institutions should treat their customers.

Berdes summarized the key ingredients needed for rural entrepreneurs to succeed:

- Local capital, a customized and unregulated capital resource in addition to banks;
- Collaborations, growing partnerships into new kinds of institutions; and
- Markets, "consumers who care about quality, consistency, convenience and only then values or environment," he explained.

Northern Initiatives

Northern Initiatives is a ShoreBank partner located in Marquette, Michigan. It originated in 1985 as an academic department of Northern Michigan University. Dennis West, president since 1997, elaborated on the history.

"Northern Initiatives was established to find innovative ways to enhance the regional economy, simply as an academic department of NMU," he said. "Then in 1992, the university entered into a partnership with ShoreBank."

Northern Initiatives has been active in the northern peninsula of Michigan since 1994. It has loaned nearly \$17 million to area businesses.

West points out that urban areas have several advantages over rural communities.

"Rural communities lack access to three things that can be found in an urban center," he said. "Capital, information and larger markets. Northern Initiatives was therefore designed to fill capital gaps, improve access to world-class ideas and support small businesses to gain access to urban centers."

"We are pushing our board to support both energy and environmental conservation," West said. "The initiative will push us beyond economy and equity to the third 'e,' environment. We have a responsibility to lead in the protection of one of Earth's most valued and precious resources."

More about CDFIs

What sets ShoreBank Corporation apart from other lending institutions?

ShoreBank is the nation's first (and still its largest) community development financial institution, or CDFI.

A CDFI is a specialized financial institution that works in market niches that have not been adequately served by traditional lending institutions. A CDFI can be a community development bank, credit union, loan fund, venture capital fund or microenterprise loan fund. CDFIs provide a range of services including mortgage financing for first-time homebuyers, financing for needed community facilities and commercial loans to start or expand small businesses.

The Leopold Center Marketing and Food Systems Initiative is currently working with a number of organizations to explore options that would increase the scope and capacity of CDFIs to serve Iowa agricultural entrepreneurs.

Does five-a-day pay for Iowans?

What would be the economic impact if Iowans followed a diet of five servings of selected Iowa-grown fruit and vegetables each day for three months of the year while they are in season? A new Leopold Center report considered additional production of apples, carrots, spinach, squash and tomatoes, half marketed directly by Iowa producers and half sold through existing retail stores, that would achieve these results.

The report found that these changes could result in an additional \$302 million in sales and more than 4,000 jobs added to the Iowa economy.

"This is an important question to consider because it ties healthy eating to the additional economic development that could occur if Iowa farmers provided some of the food for this change in diet," said Rich Pirog, who leads the Center's Marketing and Food Systems Initiative.

"Eating five servings of fruit and vegetables is recommended because of the potential health benefits, but if more of that produce is grown in Iowa, the state would reap considerable economic benefits, too," he added.

The report addressed four different scenarios, each hypothesizing an increase in the production of fruit and vegetables in Iowa. The "five-a-day" scenario would increase Iowa consumption of five produce items (apples, carrots, spinach, squash and tomatoes) to a total of five daily half-cup servings, with 100 percent of the crops coming from Iowa farms for three months of the year. Pirog said these items were selected because they can be grown easily in all Iowa counties and potentially could be supplied for three months of the year. They also were chosen for their higher nutrient density relative to other choices.

The economic impact analysis was prepared by Dave Swenson, an associate scientist in the Iowa State University Department of Economics, and reviewed by Pirog and Angie Tagtow, registered dietitian for the Iowa Department of Public Health.

According to the Iowa Department of Public Health, only 19.5 percent of Iowans eat five or more servings of fruits and vegetables every day.

Using current estimates, only 25 to 50 percent of the apples, 12 percent of the squash, 10 percent of the tomatoes, 5 percent of the carrots and 1 percent of the spinach consumed on a fresh weight basis in Iowa is grown within the state.

Swenson and Pirog said the scenarios generated in the report are hypothetical, and would require huge shifts in the infrastructure of Iowa's fruit and vegetable industry, as well as gains in the Iowa market share taken from states such as California.



Shoppers at the Drake Neighborhood Market in Des Moines.
Photo courtesy Barbara Lovitt, IDALS.

Pirog added: "Even though the scenarios are hypothetical, it is important to consider options that could be a win-win for Iowa's farmers, the state's economy, and our overall health."

EMERGING MARKETS WILL DRIVE NEW ETHIC

FUTURE (continued from page 5)

taking place in the market that may provide us with new opportunities that are based on new values. The Hartmann Group reports that 62 percent of the consuming public now wants to buy food that is "consistent with their values," and leading chefs throughout the United States are telling us that success in the restaurant business is now "all about the story."

This emerging new market is based on what business design specialist John Thackara calls "relationship value" (*In the Bubble: Designing in a Complex World*, MIT 2006). It provides a unique opportunity to unite ethics and agriculture in a new food paradigm, one that gives a growing number of food customers what they want:

- quality food offering superior taste, health and nutrition;
- a good food story, which also tells how environmental stewardship, appropriate animal husbandry, and adequate compensation to farmers and farm workers were used; and
- an opportunity for food customers to be active participants rather than passive recipients in the food chain.

These new food chains, based on value, may be the opportunity that we have been looking for to nurture a new ethic in agriculture.

A handwritten signature in black ink, likely belonging to John Thackara.

www.leopold.iastate.edu
Economic Impacts of Increased Fruit and Vegetable Production and Consumption in Iowa:
www.leopold.iastate.edu/pubs/staff/files/health_0606.pdf

Four-year rotations offer promise at bottom line

As energy prices go up, the Leopold Center continues to monitor the bottom line as it relates to alternative cropping systems that would require more management but fewer purchased inputs. And the bottom line is looking good for four-year systems.

Since 2002, Iowa State University agronomist Matt Liebman has been conducting a crop rotation experiment at the Marsden Farm near Ames in Boone County. He is investigating the effects of different crop management systems on weeds, but also collects yield data that can be used to determine the economic performance of different systems over the past three cropping seasons.

Averaged over the three-year period of 2003-2005, Liebman reduced nitrogen

fertilizer use by 50 and 73 percent in the three- and four-year rotations, and reduced herbicide use by 71 and 78 percent, while averaging yields slightly higher than the two-year rotation.

Returns to land and management were greatest in the four-year system (\$176 per acre), least in the three-year system (\$144 per acre) with the two-year system falling in between (\$158 per acre).

www.leopold.iastate.edu
Comparison of Three Rotations:
www.leopold.iastate.edu/pubs/nwl/2006/2006-2-leoletter/rotations.htm



Students from Atlantic High School toured the Adams County CRP farm in May. Members of the ISU summer research crew (center, from left) Ryan Marquardt, Karie Wiltshire, Dan

Wehmeyer and Ben Varley surveyed pastures for bird nesting activity. Grazing intern Amanda Husband (above right) prepared educational materials for several county fairs.

Projects involve students for education, outreach

By LAURA MILLER Newsletter Editor

- Can a farmer with marginal land maintain grass cover and still make the operation as profitable as row-crop production on the same land?
- What happens when you incorporate warm-season grass for wildlife nesting? Could this grassland make the enterprise as productive for livestock?

These are big questions, especially in southern Iowa, which has a large percentage of highly erodible land and thousands of acres with Conservation Reserve Program contracts ending in the next four years. (In Adams, Union, Taylor and Ringgold counties alone, CRP contracts on more than 160,700 acres are set to expire by October 2009.)

During their summer break, Iowa college students have been finding answers to these questions. They've been learning first-hand about the fragile ecosystem in southern Iowa and how to manage it more effectively. And best of all, they've been sharing their experiences with neighboring farmers, fairgoers, their professors and anyone willing to listen.

The students are part of several Leopold Center-funded projects underway on or near the Adams County CRP Research and Demonstration Project farm north of Corning. The farm covers about 360 acres and was set up in 1990 by the Southern Iowa Forage and Livestock Committee (SIFLC). The group secured special USDA permission to use CRP land to show how grass cover on marginal lands could produce a more sustainable income by grazing than by returning that land to row-crop production.

The farm has become an outdoor classroom and an important testing ground for

alternative grazing systems. Three grants from the Leopold Center Ecology Initiative are being used to answer important questions about several management options. They also expand the project's education and outreach at a critical time for farmers and landowners as their CRP contracts expire in the next several years.

The Center's Ecology Initiative is funding:

- A five-year grant to the SIFLC to hire a summer grazing intern; bring agriculture students from 10 area high schools and community colleges to the farm for tours; study areas that are being converted from cool-season grasses to warm-season grasses and their compatibility with wildlife; and to develop informational materials about their findings;
- A one-year grant to collect and analyze bird nesting data at the farm and surrounding private properties to help develop grazing management strategies to increase wildlife habitat; and
- A two-year grant to evaluate the use of patch-burns to manage grasslands for grazing and wildlife.

"Getting information from the research is the primary goal of this project because at this point what we're doing with wildlife and grazing is so new," said John Klein, CRP farm project manager and soil conservationist for the Natural Resources Conservation Service (NRCS) in southern Iowa. "But giving young people an opportunity to do field work and helping them become conservationists are definitely secondary benefits."

Klein said he hopes the project can help young future farmers see the benefit and value of forage production for long-term

 www.leopold.iastate.edu

More results from the CRP farm project:
www.leopold.iastate.edu/research/eco_files/crpfarm.htm

resource and enterprise sustainability. He also hopes that more farmers will grow warm-season forages and manage their grasslands to support upland wildlife habitat.

Bruce Johnk, who brought 35 agriculture students from Atlantic High School to the farm in May, said he appreciates the opportunity for in-field learning.

"It was a good tour that showed my students alternative ways of using marginal land that is less intrusive on wildlife and that land doesn't have to be plowed from one road to the next to be productive," he said. "They also saw watering systems for grazing that used sunlight or wind and little or no outside power."

He said his students, as well as their parents, are more receptive to alternatives than they were when he began teaching 31 years ago. "As I drive the countryside, I'm seeing more land in pastures, buffer strips and other uses. Education has been an important part of those changes."

The CRP farm is a cooperative effort that has support from local producers and organizations, as well as the Adams County Extension Council, NRCS, Farm Service Agency, Pheasants Forever and Iowa State University Extension. Some of the Leopold Center project work is being supplemented by grants from the NRCS.

Grazing intern sees changes coming

The first thing that Amanda Husband wants to do after her summer internship ends is to convince her grandfather that rotational grazing might work on their family farm. Her family raises cattle, goats, sheep, horses, chickens and ponies on 140 acres about three miles from the Missouri state line in Taylor County.

"I've gotten passionate about rotational grazing since I started work here in May and I really want to encourage other people to look at it," said Husband, a senior at Northwest Missouri State University.

As a grazing intern, Husband worked with herdsman Mike Olive to manage four cattle herds on the Adams County CRP farm. That means she's learned how to mend fences, cut thistles, check water supplies and move cattle (a daily occurrence on a rotational grazing system).

She's also worked directly with research teams from Iowa State University in their work on grazing management and wildlife utilization. And she's done a lot of education: developing and staffing displays for five area county fairs, speaking at field days, and leading tours, including groups of visiting high school agriculture students.

"I've always been a farm girl and have been around livestock," she said. "I love dealing with the public, hearing people's concerns and trying to help them solve their problems."

She said she's talked to numerous farmers during her internship and learned that they have "lots of different views" on rotational grazing. "I think the increase in production of your pasture is the best argument to use with farmers," she concluded. "If we can prove to them that they will see an increase in pasture growth, they may consider these systems."

She said she most enjoyed visiting with the high school students, who were willing to discuss what they had learned with their parents. "I think people are becoming more serious now about what they want to do with their CRP land, and we need to provide them with information about their options."

Husband has an associate degree in veterinary technician science from Nebraska College of Technical Agriculture. She anticipates a Spring 2007 graduation from NWMSU with a bachelor's degree in animal science and a minor in business.



Dragging for nests (below), the crew flushed out a northern harrier hawk (left). Below is a dickcissel nest with eggs.



ISU students find nests, more in southern Iowa

Ryan Marquardt knew about northern harriers from textbooks. But reading about this small, ground-nesting hawk was nothing like flushing one out in a southern Iowa pasture and discovering a nest with five young.

Marquardt is enrolled in the Iowa State University Graduate Program in Sustainable Agriculture. For 10 weeks this summer, he led a crew of three other students to collect data for a Leopold Center-funded project on wildlife habitat and grazing. The project was under the direction of James Pease, ISU extension wildlife specialist and professor in the Department of Natural Resource, Ecology and Management.

The students' job was to keep detailed vegetation measurements, make general observations, and gather nesting data from 14 tracts of land covering about 75 acres. The tracts vary in size and include four CRP pastures and 10 paddocks used for grazing. They are located on the Adams County CRP farm and private property.

To collect nesting data, the team drags a heavy chain through grass. They found the northern harrier nest their second week at the site. The bird is listed as a "special concerns species" because of its low population in Iowa.

"There's nothing like being hands on," Marquardt said. "We'll take an egg out of a nest and float it in water to determine how old it is. These are things you can't do in a classroom."

The information will determine where

and what kinds of birds nest in an area, and how pasture could be managed for wildlife as well as grazing. An ideal rotational grazing system would include one-third to one-half warm-season grasses (preferred by wildlife) that are not grazed until early July, when most of the bird nesting activity is finished.

The study areas include pastures that are mostly cool-season grasses, some that have recently been transitioned to warm-season species, pastures with established warm-season grasses, and pastures with a mixture of both types.

"We call older CRP properties the 'brome desert' because it has nothing for birds to build their nests in," Marquardt explained. "The most important thing for nesting is structure, not grass composition, such as standing tall vegetation, or clumps or openings where birds build nests."

The crew has found eastern meadowlark, dickcissel, grasshopper sparrows, common yellow throat, northern harrier and pheasant (though not in nests).

"One thing I've learned is the importance of a complex rotation over time," he added. "Even a small woody bush such as honeysuckle can provide enough structure for a red-winged blackbird."

A native of Ames, Marquardt hopes to join his grandfather and his uncle on their Century Farm in Madison County and pursue direct markets for cattle, poultry and goats. And he said he'll definitely implement rotational grazing.

Center welcomes new staff member, bids farewell to another

Recent staff changes at the Leopold Center include the addition of a program specialist to work on special projects and the retirement of long-time Iowa State University secretary Sherry Johnson.

Malcolm Robertson brings international business experience, a passion for sustainable agriculture and a background in applied economics as the Center's new program assistant for special projects. He joined the staff May 1 and is working with initiative leaders Jeri Neal and Rich Pirog.

"Sustainable agriculture is extremely important but the key aspect of sustainability has to be profitability," he said. "You need to show people who are thinking about change that the new practice can be profitable, and then you show the steps they can take to adopt the new practice or enterprise."

Robertson was born and grew up in the Zimbabwe capitol of Harare. His father, an industrial chemist, had moved to Africa from Scotland in the 1960s to work in the sugarcane industry. After graduating with a horticultural degree from a South African university, Robertson became an irrigation engineer for Zimbabwe's growing greenhouse and agricultural export industries for tropical fruit, cut flowers and tobacco. He eventually established his own drip and micro-irrigation company in 1995, and worked as senior horticulturist for Zimbabwe's largest chemical company.

That's also where Robertson became interested in sustainable agriculture.

"My job was to look at the broad picture and develop crop nutrition programs for many different cropping systems," he

explained. "I worked with all types of growers, from the small producer with only 25 acres and a greenhouse, to a 1,200-acre citrus operation or corn-soybean farm.

"We knew that heavy reliance on broad-spectrum pesticides could result in more problems, both in human health and controlling primary pests, so there was a move toward rotation of different products, stewardship, and biological control."

Education was essential to Robertson's work, which included the introduction of integrated pest management practices to the company's sales force and growers. He also introduced retailers and producers to foliar feeding, and developed programs that took advantage of crop cycles to increase productivity. He organized nationwide discussion groups and developed a database to interpret lab results for specific crop recommendations.

"When people think about change they tend to want to avoid risks," he said. "I am a strong believer in diversification, instead of putting all your eggs in one basket. Of course, diversification also has environmental advantages; it's all related and you must look at the entire system."

Robertson and his wife, Alison, moved from Zimbabwe to the United States in 1999, where both enrolled in graduate programs at Clemson University in South Carolina. Robertson earned a master's degree in agricultural and applied economics while working full-time for the university. He inspected nurseries as part of the state's

I am a strong believer in diversification, instead of putting all your eggs in one basket.

– Malcolm Robertson



fire ant program, and coordinated educational programs about invasive species.

In 2004, they came to Iowa State University, where Alison became an extension plant pathologist and Malcolm worked as partnership program manager for the College of Agriculture's Corn and Soybean Initiative. Malcolm also serves as head coach for the ISU rugby team.

At the Leopold Center, Robertson is developing methodologies to study external costs of various production systems, including niche pork and organic flax, and ways to track improvements in crop/livestock diversity. He also will be working with the Center's grassland agriculture program and will help document enterprise budget information for alternative crop and livestock enterprises.

Secretary retires to Florida

Leopold Center secretary Sherry Johnson retired in July and moved with her husband to Jacksonville, Florida. Johnson had worked at ISU more than 30 years, including 26 years at the ISU Press. She had been a member of the Leopold Center staff since August 2003.

Emily Clark, a recent ISU graduate in agricultural communications, is filling the position on a temporary basis.

News & Notes

The Leopold Center's 2003-2004 annual report, "Facing Time," received a gold award from the Association for Communication Excellence (ACE). The report received 100 out of 100 possible points in the Graphic Design (1- to 3-color) category. The judge commented that the report was "a pleasure to read and handle."

Juls Design of Ankeny, Iowa, managed by Julie Mangels, created the document that won the award in its class among 439 entries. This was one of five major awards the design firm has won for its work on the Leopold Center's annual reports over the past few years. Mary Adams was the

Center's editor for the publication.

"Facing Time" can be found on the Center's web site at: www.leopold.iastate.edu/pubs/annual/files/Leopold_AR_03-04.pdf

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The team that developed new technology to more accurately apply anhydrous ammonia fertilizer has been honored by the American Society of Agricultural and Biological Engineers (ASABE). Mark Hanna, Paul Boyd and Kent Jones received the Rain Bird Engineering Concept of the Year Award for their "Impellicone" anhydrous ammonia manifold, manufactured

by CDS-John Blue Company of Huntsville, Alabama.

Hanna, an Iowa State University agricultural and biosystems engineer, received a Leopold Center grant to begin his investigations that led to the new technology. His graduate student, Paul Boyd, is now a hydraulic engineer with the U.S. Army Corps of Engineers in Omaha. Jones directs engineering at CDS-John Blue Company.

The manifold is able to operate using standard low pressure that keeps costs down. It's also convenient for operators because it allows application rates changes to be made automatically.

Three new members added to advisory board

Two university professors and an Iowa farmer are the newest members of the Leopold Center Advisory Board. They are sixth-generation farmer Aaron Heley Lehman; Dordt College professor John Olthoff; and Iowa State University Extension sociologist Paul Lasley. Outgoing board members were Stephen Howell, ISU Plant Sciences Institute; Wes Jamison, Dordt College; and long-time board member and farmer Marvin Shirley of Minburn.

The Center can conduct research in promising areas that simply won't be explored by anyone else. – Aaron Lehman



Aaron Heley Lehman raises corn, soybeans and hay on a six-generation family farm near Polk City in rural Polk County. He farms about 700 acres, of which a small part is under transition to organic.

On the advisory board Lehman represents the Iowa Farmers Union, where he had worked for eight years, in the late 1990s serving as its executive director and then its legislative lobbyist. He follows Dallas County farmer Marvin Shirley, who had served on the board since 1994, when three farmers and one agribusiness representative were added to the board as ex-officio members (and later were designated as full voting members).

Lehman said he had learned about the Leopold Center through its many sponsored research projects, and was pleased to be appointed to the advisory board.

“The work of the Leopold Center is drastically important if we want a sustainable future for agriculture,” he said. “The Center can conduct research in promising areas of sustainable agriculture that simply won't be explored by anyone else.”

Lehman received an undergraduate degree in physics from St. Olaf College in Northfield, Minnesota, and taught for several years before going back to the farm. Currently, he teaches Sunday school at his church where he also is a member of the choir. He was elected to the North Polk Community School Board in 2005.

He and his wife, Nicole, have an eight-year-old daughter and six-year-old son.

The Leopold Center can be in the position to support innovative ideas and bring together diverse groups. – John Olthoff



John Olthoff is professor of agriculture at Dordt College, located in Sioux Center in northwest Iowa. He was appointed to replace Wes Jamison, who left Dordt College earlier this year to move back to Florida. Olthoff will represent the Iowa Association of Independent Colleges and Universities on the board.

“I appreciate the opportunity to complete Wes' term,” he said. “While there are challenges to agriculture in Iowa at this time, there is also a bright future. There needs to be a uniform effort from all parts of the state to promote the status of agriculture.”

Olthoff served as a member of the animal issues team in the 1980s. He said, “The Leopold Center has supported an interesting diversity of projects, and it helps address issues throughout the state, and can be in the position to support innovative ideas and bring together diverse groups.”

He joined the Dordt faculty in 1989 and has taught or directed more than 25 courses and workshops in animal science and has been involved in demonstration projects through the college's Agriculture Stewardship Center.

He has a Ph.D. in animal breeding from the University of Nebraska and a master's degree in animal science from the University of Minnesota. Since coming to Iowa, Olthoff has been very active in extension activities. He has worked with ISU Extension on a number of programs, including feedlot runoff, marketing, food safety and quality assurance training, and intensive grazing. He currently chairs the Sioux County Extension Council.

Olthoff is a board member for the Sioux Center Christian School and has been involved with Laotian ministry in the area. He and his wife, Becky, have three young sons.

The Leopold Center should provide catalytic leadership to the array of farm and rural issues. – Paul Lasley



Paul Lasley is probably best-known to most Iowans for his insights gleaned from more than 20 years directing the Iowa Farm and Rural Life Poll.

Since 1982, Lasley has directed an annual survey of more than 2,000 Iowa farm families. Questions range from specifics of their farming operation and financial situation, to opinions about biotechnology, their quality of life, recreation activities, and future on their farm. Results from the poll, done in cooperation with the Iowa Department of Agriculture and Land Stewardship, are used to provide researchers and policymakers insights into pressing issues and to guide development of ISU Extension programs. The poll's findings have been cited in many national, regional and state media outlets.

Lasley has been an extension sociologist at ISU since 1981. He also is serving as professor and chair of the ISU sociology and anthropology departments.

“I have a good handle on the issues confronting Iowa farm families,” Lasley said, adding that the Leopold Center can play a huge role in Iowa agriculture. “The Leopold Center should provide catalytic leadership to the array of farm and rural issues. It must direct its attention to building coalitions, collaborations and partnerships.”

He said he was most interested in putting food security and resource conservation high on the Center's agenda. “Not enough attention has been given to the ‘culture’ in agriculture,” he added.

Lasley was raised on a farm in northern Missouri. Although his parents are retired, his wife's parents continue to farm. He has a bachelor's degree in animal husbandry, and master's and Ph.D. degrees in sociology from the University of Missouri-Columbia.

He is a member of the Youth and Shelter Services board of directors and deacon at United Church of Christ-Congregational in Ames. He and his wife Pauletti have two daughters; one is a social worker in Columbia, Missouri and the other is a nurse at Broadlawns Hospital in Des Moines.



**LEOPOLD CENTER
FOR SUSTAINABLE AGRICULTURE**
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Highlight Events

Grazin' Days workshops set

Producers interested in rotational grazing or those who have received funds through the Environmental Quality Incentives Program (EQIP) are invited to attend any one of a series of Grazin' Days workshops on pasture management.

Workshops are scheduled August 22 at the Sam Schrock farm in Davis County; August 23 at the Linda Grice farm in Keokuk County; August 24 at the Jim and Loraine Stevens farm in Poweshiek County; and August 31 at the Gene Tinker farm in Clayton County.

Each workshop will begin at 3:30 p.m. and includes a pasture walk and discussions on cover plant identification, manure distribution, decentralized watering systems, weed and brush control, managing forage heights, pasture condition scoring and contingency plans for management during a weather crisis (too wet or dry). A light supper will be served at 6 p.m.

The \$20 registration fee includes an updated version of the popular *Pasture*



Producers learn about rotational grazing at the John Sellers, Jr. farm near Corydon in July.

Management Guide for Livestock Producers three-ring binder. For more information, contact state grassland conservationist Brian Peterson, (515) 323-2216, or ISU Extension animal science specialist Dan Morrill, (515) 294-2904.

The workshops are sponsored by the Iowa Forage and Grassland Council, NRCS, ISU Extension, Iowa Beef Center, Iowa Farm Bureau Federation, Leopold Center, Southern Iowa Forage and Livestock Committee and Practical Farmers of Iowa.

Using distiller's grains

Henry Langstraat of Chariton and Ron Dunphy of Creston are sharing their experiences with a supplemental feeding system being tested on their farms that uses ethanol co-products in pellet form.

Both producers are participating in a feeding demonstration funded by a Leopold Center research grant. Iowa State University Extension beef specialists Dan Loy and Joe Sellers are studying low-cost technologies to help smaller producers more effectively use DDGs in their operations.

The field day on the Langstraat farm was August 7. The field day on the Dunphy farm will begin at 10:30 a.m. August 31. For more information, contact Sellers at (641) 774-2016.