



New director named for Leopold Center

A microbiologist with the U.S. Food and Drug Administration will be the newest director of the Leopold Center in its 25-year history. Mark Rasmussen, supervisory microbiologist and director of the Division of Animal and Food Microbiology at the FDA's Center for Veterinary Medicine in Laurel, Maryland, will begin work no later than June 1.

"Dr. Rasmussen brings to us a broad-based background and exceptional scientific, agricultural and administrative strengths that will provide strong leadership for the Leopold Center and for Iowa agriculture," said Gregory Geoffroy, president of Iowa State University.

Geoffroy announced the appointment January 3 in a letter to the Leopold Center Advisory Board, staff and a 10-member committee that conducted the national search.

At the FDA, Rasmussen has provided technical guidance and research support for regulatory decisions on drugs,

feed additives and contaminants in animal feeds. He also worked 18 years as a scientist and research leader at the U.S. Department of Agriculture's National Animal Disease Center in Ames,

including service as a collaborating faculty member in Iowa State's animal science and biomedical sciences departments. He has held research positions in private companies and has farmed full-time in Nebraska.

Rasmussen was raised on a farm in northeastern Nebraska west of Sioux City, Iowa. He earned a bachelor's degree in agriculture (1976) and a master's degree in animal science (1979) from the University



DIRECTOR (cont. on page 2)

Leopold Center strengthens ILF partnership

A statewide program designed to build a "Culture of Conservation" in Iowa will be working closely with the Leopold Center over the next three years.

The Leopold Center has strengthened its partnership with the Iowa Learning Farms (ILF), beginning in January and running through December 31, 2014. The Leopold Center is supporting development of educational materials for new audiences, including young people, and resources that can be used at ILF field days, workshops, classrooms and the Conservation Station, the ILF's mobile learning center.

"The Iowa Learning Farms has been

successful in capturing the attention of farmers and generating public awareness about practical ways that we all can improve our water and soil quality," said Mark Honeyman, Leopold Center interim director. "This new aspect of our partnership will get Leopold Center research findings into the hands of farmers and increase the outreach and impact of the Leopold Center."

The Iowa Learning Farms is an outreach and education program that brings together farmer and non-farmer conservationists, educators, and organization and agency personnel. Here's a snapshot of their activities from the past

PARTNERSHIP (cont. on page 10)

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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/news/results

Summaries

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

- Agronomic, ecological and economic comparisons of conventional and low-external-input cropping systems
- Custom grazing contracts: Successful models to grow profit, avoid pitfalls
- Building the Iowa wine culture through improved quality
- Improving veterinary care for organic livestock systems
- Routing foods into southeast Iowa
- Transitioning the Pork Niche Market Working Group to self-sufficiency

Scientific Journals

Leopold Center-supported projects have produced these papers published in peer-reviewed journals. Check at a research library or the journal's website for an abstract or full report.

- Hu, Guiping, Lizhi Wang, Susan Arendt and Randy Boeckstedt (2011). An optimization approach to assessing the self-sustainability potential of food demand in the Midwestern United States. *Journal of Agriculture, Food Systems and Community Development* 2(1):1-13. <http://dx.doi.org/10.5304/jafscd.2011.021.004>
This project included the redevelopment of the online tool, the Iowa Fruit and Vegetable Market Planner (see http://www.leopold.iastate.edu/cool_tools).
- Wilson, Henry, Rick Cruse and Lee Burras (2011). A method to adapt watershed-scale sediment fingerprinting techniques to small-plot runoff experiments, *Journal of Soil and Water Conservation* 66(5):323-328.
This was a special project of the Leopold Center that studied in-field conservation practices (see report in our Spring 2008 newsletter).
- Giovannucci, Daniele, Barham, Elizabeth and Pirog, Rich, Defining and Marketing Local Foods: Geographical Indications for U.S. Products (2010). *Journal of World Intellectual Property*. Available at SSRN: <http://ssrn.com/abstract=1814566> (4-2011 posted)

NEW DIRECTOR CHOSEN FOR LEOPOLD CENTER

DIRECTOR (continued from page 1)

of Nebraska, a Ph.D. in dairy science (1986) from the University of Illinois and a master of business administration degree (1996) from Iowa State University.

His scientific expertise includes areas of microbiology, food safety, animal health, ruminant nutrition, veterinary medicine and antibiotic resistance. He holds two patents related to his research, including food safety technology used on an estimated 20 percent of the beef carcasses marketed in the United States.

He has presented lectures in an animal health management course at the University of Maryland. While in Ames he taught graduate courses in rumen microbiology and lectured on agricultural technology.

Before joining the FDA in 2009, he worked for a biofuels company in Minnesota. He also worked briefly as a research scientist for Eastman Kodak after finishing graduate school.

Rasmussen was one of three candidates invited to the Iowa State campus for interviews. Other candidates were Abdullah Jaradat, a research leader at the USDA's Agricultural Research Service in Morris, Minnesota; and Thanos Papanicolaou, professor of civil and environmental engineering at the University of Iowa.

Sharron Quisenberry, ISU Vice President for Research and Economic Development, chaired the search committee that included four members of the Leopold Center Advisory Board. They were Bill Ehm, Dan Frieberg, Jennifer Steffen, and Keith Summerville.

Mark Honeyman, who coordinates ISU Research and Demonstration Farms, will continue as interim director at the Leopold Center until June 1. The Leopold Center's first director was Dennis Keeney, followed by Fred Kirschenmann and Jerry DeWitt.

Conversations

WITH INTERIM DIRECTOR MARK HONEYMAN



Voices from the past: Iowa's Wallace family

This fall, Jean Wallace Douglas passed away at the age of 91. She was a leader in conservation and environmental issues and a generous contributor of advice and support to the Leopold Center. She was the last of her generation – the children of Henry A. Wallace. Some have called the Wallaces Iowa's "premier agricultural family." Her great-grandfather was "Uncle Henry" Wallace, the white-bearded pastor who started *Wallaces Farmer* in 1895. The farm paper's motto was "Good Farming, Clear Thinking, Right Living."

Uncle Henry's son was Henry C., or "Harry," Wallace who took over *Wallaces Farmer* in 1916. He was a champion for progressive agricultural issues including fair freight rates for livestock farmers. Harry was named U.S. Secretary of Agriculture by President Harding in 1921. His term was cut short when he died in 1924. A memorial to Henry C. Wallace was placed on the ISU campus by the American Country Life Association — a granite boulder with a plaque among nine hard maple trees west of the Campanile. It states that he "worked for a richer and happier rural life" ... that he "provided an economic service for the American farmer" and that he "led the vanguard in the battle for equality for agriculture" and "as prophet he saw in the fertile lands of the corn belt the bases of a rural civilization finer than any the world has yet known."

Harry's (Henry C.) son, Henry A. Wallace, was born on a small farm in Adair County, Iowa, in 1888. Henry A. Wallace, perhaps Iowa's greatest agricultural mind and leader, graduated from Iowa State University in 1910, and took over *Wallaces Farmer* management early because of his father's public service and then death. He was an early developer of hybrid seed corn and a co-founder of the Pioneer Hi-Bred Company in 1926. In 1933, H.A. Wallace was named Secretary of Agriculture and later served as Vice President and then

Secretary of Commerce. His life was chronicled in 2001 by J. Culver and J. Hyde in the book *American Dreamer*.

Here are excerpts about Henry A. Wallace from *American Dreamer*:

From an early age, and for the remainder of his life, a central characteristic of Henry A. Wallace's personality was independence of mind. He was open to any idea however silly sounding, until he could test its validity. He was prepared to test any idea, no matter how broadly accepted, that would not stand the weight of inquiry.

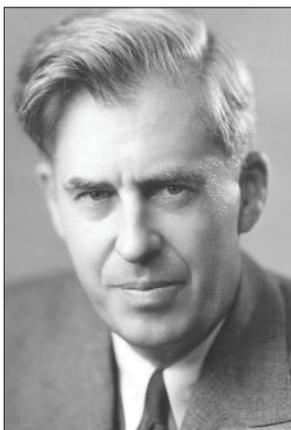
Wallace's senior thesis (at Iowa State) was a 40-page treatise entitled "Relation between Livestock Farming and the Fertility of the Soil." It was a technical analysis and a call for progressive reform (related to soil conservation). He stated that "We have our choice between that (soil conservation) and ruin."

Only a handful of men in 1924 understood what was about to happen. Foremost among them was Henry A. Wallace. He was the prophet and evangelist, the teacher

and preacher of agricultural scientific advancement. "A revolution in corn breeding is coming that will affect every man, woman, and child in the corn belt within 20 years," he wrote in the mid-1920s.

With the passing of Jean Wallace Douglas, I have been thinking about the Wallaces and our current times. It seems that what is needed now in agriculture is a Wallace viewpoint or outlook. A Wallace outlook combines science, passion, voice, civic duty and community responsibility to generate leadership that brings about long-term change. This remarkable combination is key to policies, science and business that will help ensure a sustainable and resilient Iowa agriculture.

Mark Honeyman



Left: Henry A. Wallace. Right: Wallace with his daughter Jean, his wife Ilo, and dog Brutus. Photos courtesy of the Wallace Centers of Iowa.

What's happening with the Local Food and Farm Program?

The new statewide Local Food and Farm Program is moving ahead on several fronts, each led by people already working on similar programs throughout the state. Craig Chase, Iowa State University Extension farm management specialist and interim leader of the Leopold Center's Marketing and Food Systems Initiative, is coordinator of the new program approved by the Iowa legislature in late July.

"The Iowa Local Food and Farm Plan that the Leopold Center prepared for the legislature, and is the basis for this program, had 29 operational recommendations divided into six sections," Chase said. "We're looking at major barriers to developing a vibrant food system in Iowa and then at what we could do to eliminate these barriers."

The six areas are: business development

and financial assistance; processing; food safety; issues relevant to beginning, minority and transitioning farmers; program assessment and implementation of local food incentives. Leaders are assessing current challenges and successes, identifying what's needed, and suggesting future activities. They will present a preliminary report to the legislature in early 2012.

"Some recommendations from the plan have been accomplished, such as adding a farmer member to the Iowa Food Safety Task Force. Others will require more attention, such as the food safety training that already has begun in northeast Iowa."

Chase said aggregation, storage, processing and distribution of locally grown food are among the larger issues, but he's confident those efforts will grow, too.

"We have a couple examples of food hubs, sometimes called aggregation points, where anyone who wants to provide products can do that, from conventional corn-soybean farmers looking to diversify for extra income to the five-acre strawberry grower interested in an institutional market," he said.

Chase also will meet with a newly appointed Local Food and Farm Program Council in January. Members and the organizations they represent are: Maury Wills, Iowa Department of Agriculture and Land Stewardship; Rick Hartman, Iowa Farmers Union; Warren Johnson, RC&Ds of the Natural Resource Conservation Service; Teresa Wiemerslage, local food industry; Andrea Geary, Regional Food Systems Working Group; and Barb Ristau, Iowa Farmers Market Association.

Lynn Heuss – local food incentives



Lynn is the Local Food and Farm Program assistant coordinator, and a program coordinator at the Women, Food and Agriculture Network. At the National Sustainable Agriculture Coalition

she worked for the passage of the Farm to School legislation within the Child Nutrition Act. She also has worked with Buy Fresh Buy Local, the Farm to School National Network, and the Iowa Farmers Union, and recently was elected to serve on the board of the Tallgrass Cooperative Grocery. In her spare time she enjoys gardening, biking, reading, food preservation, and taking care of her backyard chickens. She has three children, two graduated from Iowa State and one currently at DMAC.

Teresa Wiemerslage – food safety



Teresa is the Program and Communications Coordinator for ISU Extension and Outreach in northeast Iowa. She coordinates the work of the Northeast Iowa Food & Farm Coalition (NIFF), including its Farm to School Chapter.

She holds degrees from ISU in biology and plant pathology, and lives on a fourth generation cow-calf operation along the Minnesota border where they finish 180 head of natural beef annually.

Andrea Geary – assessing programs



Andrea is the Local Food Program Manager at the University of Northern Iowa's Center for Energy and Environmental Education. She currently serves as Iowa's state

coordinator for Buy Fresh Buy Local, and coordinates the Northern Iowa Food & Farm Partnership. Andrea completed her undergraduate degree at the University of Iowa in 2001, and owned and operated a scratch bakery using local foods from 2004 to 2007. In her spare time, she enjoys being led on adventures by her two young daughters, outdoor activities, reading, and growing and preserving food.

Jason Grimm – beginning, transitioning and minority farmers



Jason is the Food System Planner for Iowa Valley RC&D. Jason has degrees in landscape architecture and environmental studies

from ISU, with an emphasis in regional and urban food system design and planning. Jason and his wife live in Coralville where they practice urban agriculture in their yard and work on their family's small diversified farm south of Williamsburg, raising corn, alfalfa, small grains, black beans, produce, beef and poultry.

Nick McCann – food processing



Nick has an MBA in Operations Management and an MS in Sustainable Agriculture from ISU, where he also was a graduate research assistant for the Leopold Center Marketing and Food Systems

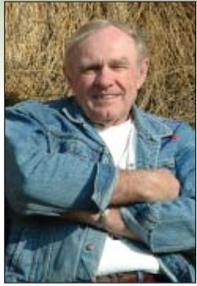
Initiative. Nick previously has worked in agricultural production, processing and marketing in both domestic and international markets. His research and practical interest is working with small and midsize agricultural businesses to improve profitability, return on investment and cash flow. He currently works as the Region 4 Food Value Chain Coordinator for ISU Extension.

Andy Larson – business development/ financial assistance



Andy is a program specialist in Small Farm Sustainability for ISU Extension and Outreach, as well as state sustainable agriculture coordinator for Iowa's

SARE Professional Development Program. He earned an MBA with a minor in Sustainable Agriculture from ISU. A former Leopold Center intern, he leads the Grass-Based Livestock Working Group. Andy grew up on his family's dairy and grain farm in northwestern Illinois.



TOWARD A SUSTAINABLE

Future

Backcasting to resilience

It comes down to this, friends: Can we keep ourselves fed? Can we save the stuff, the soil and water, of which we are made? All of us are just stopovers between soil and soil. – Wes Jackson

Karl Stauber, president and CEO of the Danville Regional Foundation, has suggested that we have become an “instant-oriented” society. We tend to see all of our *problems* as challenges to be solved instantaneously, and all of our *advantages* as opportunities to be seized immediately. Such an instant-oriented culture, of course, assumes that we always know all we need to know, in an instant, to make wise decisions, and that we always can accurately predict that our instantaneous actions will serve our long-term interests. There is little evidence from history to substantiate those assumptions.

Unfortunately, such an instant-oriented scenario largely dominates our food and agriculture policy pursuits so *now* would seem to be a perfect time to rethink that strategy. We began that instantaneous practice in 1965 by instituting a “farm bill” every five years. It is a strategy that inevitably leads us to ascertain what will work productively and politically for the next five years. By 2015 this will have been our policy strategy for 50 years!

It would appear that this “instant-oriented” approach to shaping our food and farm policy was inaugurated to provide our nation with a “sustainable” food and agriculture plan. There is ample evidence to suggest that this approach has utterly failed to achieve that objective. This policy approach has contributed to an agriculture that has produced a thousand dead zones in our seas – one of the largest in the Gulf of Mexico – and seriously depleted the biological health of our soils. It also has contributed to the disintegration of our rural communities and seriously eroded one of the most important resources of a thriving agriculture – its human capital. Seventy-five percent of our total gross sales from agriculture (as of 2007) are now produced by just 192,442 farms, and 30 percent of our farmers are now over age 65 and only 6 percent are under age 35. (Duffy)

All of this is particularly disturbing when we anticipate the challenges confronting our food and agriculture enterprises in the decades ahead: the end of cheap energy, rapid depletion of mineral resources (particularly rock phosphate and potassium), decreasing supplies of fresh water, degradation of soils, and more unstable climates. These are just a few of the imminent challenges that our food and agriculture enterprises will need to address. And they cannot be addressed using short-term, instant-oriented policy strategies.

In June 2009, The Land Institute based in Salina, Kansas, suggested an intriguing alternative to the current series of five-year plans. Based on information gathered from some of its own research scientists and from 10 meetings that the Institute sponsored coast-to-coast with farmers and other citizens, they proposed a “50-Year Farm Bill.” Instead of continuing with a

process that develops a short-term policy every five years for 50 years, the 50-year farm bill would ask what changes need to be in place 50 years from now to achieve a resilient, “sustainable” food system, and then “backcast” from that point to determine what policies and research priorities need to be instituted every five years over that 50-year period to achieve its goal.

The 50-year farm bill plan acknowledges some of the preliminary research that the Green Lands, Blue Waters project already has conducted, which can achieve some of the objectives for such a new future. The work of the Green Lands, Blue Waters project (carried out by 17 universities and non-profit organizations and initiated by the Leopold Center almost a decade ago) and the research that The Land Institute has done during the past 35 years together provide a beginning template for practical directions that a “50-year” food and farm policy initiative could sponsor.

At the heart of this new design for our agriculture-of-the-future lies Aldo Leopold’s observation that “the true problem of agriculture, and all other land-use, is to achieve... permanence,” in other words, to achieve resilience. It is only a resilient, largely self-renewing agriculture that will provide us with a “sustainable” food system over the next 50 years.

Wes Jackson, 2011. “Between Soil and Soil,” *The Progressive*, December 2010/ January 2011.

Karl Stauber. Submitted by e-mail.

Mike Duffy. Based on ERS 2007 farm census data, confirmed by e-mail.

Aldo Leopold, 1999. *For the Health of the Land*, Previously unpublished essays edited by J. Baird Callicott and Eric T. Freyfogle. Washington, DC, Island Press.

For a detailed description of the “50-year Farm Bill” plus Wes Jackson’s and Wendell Berry’s opinion piece, “A 50-Year Farm Bill,” published in the *New York Times*, January 4, 2009, see www.landinstitute.org.



Learn more:

Green Lands Blue Waters
www.greenlandsbluewater.org

The Land Institute
www.landinstitute.org

Research explores mob grazing for healthier pastures

By MELISSA LAMBERTON, Communications research assistant

Four times a day, Margaret Dunn walks out to a field at the Iowa State University Beef Nutrition Farm, strings electric wire around a new strip of pasture, and whistles for the cows.

Dunn is an ISU graduate student researching the effects of mob grazing, a strategy for improving the quality of a pasture by stocking a large number of cattle for a short period of time. The project, led by ISU Department of Animal Science professor Jim Russell, received funding from the Leopold Center's Ecology Initiative in 2010.

"One of the keys to sustainability is to have perennial forage on the ground," Russell said. "In order to maintain and increase the amount of land that we have planted in perennial forage, we need to find ways to increase the profit that we can obtain by it."

Profitable cattle production offers an incentive to landowners to keep land planted in perennial forages, which offer year-round benefits for soil, water and air quality. However, grazing management is key. In continuous grazing systems, cattle will select the most palatable plants to eat, resulting in a decline in forage productivity. Cattle graze less selectively when they "mob" a small pasture. This "high-intensity, low-frequency" system provides more balanced pasture utilization and fosters plant diversity.

Management-intensive grazing systems are increasing in Iowa. In 1992 only 1 percent of the state's cow-calf producers used a grazing system that required cattle movement once a week. That number has risen sharply in some regions of Iowa, according to a recent survey of 27 cow-calf producers conducted by one of Russell's graduate students, Angela Richardson. Richardson found that 60 percent of the surveyed producers in western Iowa graze intensively, as do 75 percent in northeast Iowa.

Richardson points out that rotational grazing has the potential to ease the strain of limited land availability because it increases forage production and allows higher stocking rates. In southeast Iowa, all of the surveyed producers cited the lack of available land as the most important factor limiting their expansion, but only 14 percent of the surveyed producers rotate cattle in intensive grazing systems.

Russell's project at the ISU Beef Nutrition

Farm can help close this gap. The project compares three types of management-intensive grazing systems: mob, strip and rotational. Each 10-acre tall fescue pasture, seeded with red clover, is stocked with 10 fall-calving Angus cows in the spring. Mob grazing cattle move to a new strip of pasture four times a day, compared to strip grazing (once daily) and rotational grazing (once every few days).

Dunn explained that the cattle in each experiment receive the same amount of forage each day, but at different times. In mob grazing, she said, "they get four meals a day as opposed to one big meal a day, or a whole acre of land every several days."

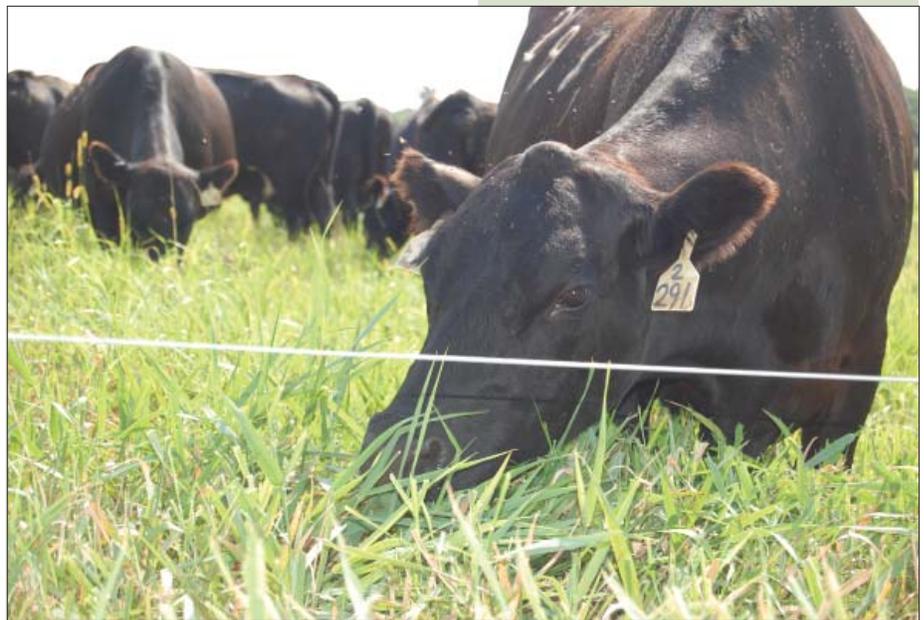
The researchers monitor the weight of the cows and calves, take forage samples, and measure the selectivity of grazing. They also sample the soil to assess carbon content, compaction and water infiltration. Studies suggest that mob grazing improves the quality of the pasture by increasing legumes, evenly spreading manure, minimizing soil erosion and maximizing carbon sequestration. In another Leopold Center project at the ISU McNay Research and Demonstration farm in south-central Iowa, Russell is studying the potential of mob grazing to improve wildlife habitat.

"In the end, this has to make economic sense," Dunn said. The research will help provide vital information to cow-calf

producers about the costs and rewards of mob grazing and other management-intensive systems that aim to create successful, sustainable operations in Iowa.

www.leopold.iastate.edu

Watch the video:
www.leopold.iastate.edu/news/on-the-ground/cattle-grazing-healthier-pastures



Top: Margaret Dunn, ISU graduate student. Bottom: Cattle "mob" a new strip of pasture at the ISU Beef Nutrition Farm with intensive grazing.

Project fine-tunes cattle on native grasslands

By MELISSA LAMBERTON, Communications research assistant

Managers at Whiterock Conservancy are learning how native grasslands can provide both environmental benefits and nutritional cattle grazing, thanks to a 2009 competitive grant from the Leopold Center's Ecology Initiative.

The project team will provide landowners and cattle producers with information about the ebb and flow of nutrient availability in prairies, savannas and warm-season grasslands by creating a *Grazing Native Grasslands Calendar*. The calendar will align nutritional data with the grazing needs of cattle herds and effects on the environment. Tolif Hunt, executive director of Whiterock Conservancy, leads the project.

Hunt hopes to develop a management plan for grazing restored native grasslands that will help create viable options for rural Iowa. He said the work helps forge partnerships between conservation organizations, cattle producers and government agencies. "This project already has had that impact," he said. "We're collectively looking at grasslands as an endangered resource that we all have a stake in."

In the Midwest, vast grasslands developed with the help of fires and

grazing by buffalo and elk. Today, the few remaining protected or restored grasslands in Iowa often lack the disturbances that once kept them healthy. Managed properly, cattle can help return beneficial disturbance to a landscape. In one example, the landowner might manage cattle so they selectively graze for cool-season grasses, creating more room for wildflowers to flourish.

"We understand that grazing is a really important part of the historic disturbance regime of these restored grasslands," said Elizabeth Hill, a former Whiterock Conservancy ecologist who is now pursuing her master's degree at the University of South Dakota. "We want to be able to integrate the grazing component into our prairie lands purely for the function of it."

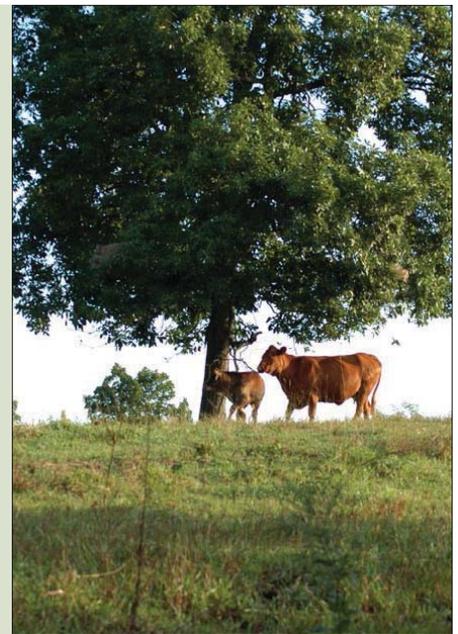
To gather data about the nutritional quality and bulk quantity of forage, researchers collect biweekly samples from three types of grassland – reconstructed prairie, restored oak savanna, and grassland dominated by warm-season grasses. They sort the vegetation into various types, such as warm-season grasses, cool-season grasses, sedges and legumes, to calculate nutrient availability at different times of year.



Preliminary results suggest that native grasslands offer good grazing opportunities. That might make grasslands an economically viable option for landowners, providing a financial return while protecting environmental benefits such as improved soil health and wildlife habitat.

In the final stage of the project, researchers will develop a Prescribed Grazing Plan and put it into practice at Whiterock Conservancy. A 5,400-acre nonprofit land trust in west-central Iowa, Whiterock Conservancy is sponsored by the Iowa Department of Natural Resources, Iowa Natural Heritage Foundation, Leopold Center, Practical Farmers of Iowa, Iowa Cattlemen's Association, Saving Our Avian Resources (SOAR), Creating Great Places and Iowa Environmental Council.

Partners on this research include Mary Wiedenhoft, associate professor in agronomy at Iowa State University; Joe Sellers, ISU Extension; Pat Corey, tenant and cattle producer; and Rachael Odhe, ISU graduate student.



ISU graduate student Rachael Odhe and undergraduate Katy Darrah sample prairie grasses at Whiterock Conservancy to analyze forage biomass and quality. Photo credits (left to right): Guan Lai, Rachael Odhe, and Emily Babin.

Farm superintendent, organic farmer share Spencer Award

Bernie Havlovic

What do you do with four semi-truckloads of biochar? It's all in a day's work for Bernard "Bernie" Havlovic.

Havlovic manages the Iowa State University Armstrong Research and Demonstration Farm in Pottawattamie County and the ISU Neely-Kinyon Research and Demonstration Farm in Adair County and will receive the 2011 Spencer Award for Sustainable Agriculture. Having spent 32 years working with countless research projects on four ISU farms, Havlovic knows how science works – in a practical sense – in Iowa agriculture.

As far as the 70 tons of fine black ash from Kansas, Havlovic was fortunate that it arrived in southwest Iowa on a calm November day so that he could immediately spread it over five acres of test plots, all Class 3 (steeply sloped, erodible) land. The application was part of a multi-state research project on amendments to improve marginal soil. Biochar, a byproduct of renewable energy production, has a very long life in the soil, possibly more than 100 years.

"It's an interesting study and I'll be anxious to see what is learned," he said. "This approach has been quite effective on some of the world's really poor soils, but we don't know how it will work here on what we call marginal land."

Havlovic will add observations about this project to many, many others he's helped conduct since joining the ISU Department of Agronomy as field

technician in 1975, and the ISU Research Farms network in 1979. As superintendent on one of ISU's 15 farms, he oversees 50 to 75 research experiments or demonstrations every year. Like other superintendents, he also organizes and writes annual progress reports, and meets with farmers in the region to determine what research questions they want ISU to answer.

"Bernie is an 'out of the box' thinker and constantly strives to inform the farmers of southwest Iowa about the many options available to them beyond the corn and soybean rotation," said Hancock farmer Russ Brandes in a letter of support for the award.

Havlovic worked with the Soil and Water Conservation District, where Brandes was a commissioner, to install buffer strips, terraces, waterways, rotational grazing and wetlands on the Armstrong farm. They recently added a biodigester to trap and remove nitrate from groundwater as well as a soil pit for use at field events.

ISU horticulture professor Paul Domoto said he appreciated Havlovic's extra effort with grape trials and a season extension project growing raspberries and blackberries in high tunnels, funded by the Leopold Center.

"On three occasions, high winds tore off the high tunnel covering at the Armstrong Farm, but Bernie was able to take these tragedies and turn them into learning experiences," Domoto said in a letter of support.

Havlovic has been superintendent and lived on the Armstrong farm since he

helped it open in 1993. The first ISU farm he managed was the Northern Research Farm at Kanawha. Then in 1987 he moved to Washington County where he helped open and manage the ISU Southeast Research Farm. He also opened the Neely-Kinyon Farm in 1994. A native of central Nebraska, he has a farm operations degree from Iowa State.

Building trust – with extension staff, project leaders, members of the local community – has been one of Havlovic's strong points, according to many who have worked with him. He was part of the first high tunnel built at an ISU farm (used for fruit and vegetable crops, even tulips) and has been active in the farm's home demonstration gardens, a popular program that can draw 350 people to a summer field day.

"At heart I've always been a researcher," Havlovic said. "It's been the best of both worlds. In many ways, I get to be much like a farmer, living with the same weather and cropping problems. But I also get to do experiments and really see the other aspect of agriculture, why things happen the way they do."

And that's where sustainability enters the picture.

"Farmers are basically the same no matter where you go in Iowa," he said. "They realize that they don't own the land. Their legacy is operating the farm and passing it on to another generation."

AWARD (cont. on page 9)



Left: Bernie Havlovic checks the raspberries in his high tunnel. Right: At the ISU Armstrong Research and Demonstration Farm, Bernie sets up an experimental trial with tomatoes. He shares the Spencer Award this year with Michael Natvig.

Michael Natvig

Michael Natvig's 420-acre organic farm exemplifies the meaning of diverse. He grows an organic corn, soybean and a small grain mixture called succotash. He maintains hayfields and pastures alongside of native prairie, oak savanna and woodland. He raises beef cattle and hogs. He even conducts research on his land, committed to learning and sharing all he can about sustainable agriculture.

Natvig will receive the Spencer Award for Sustainable Agriculture at a ceremony on March 1. The award was established in 2002 to honor farmers, educators or researchers who have made a significant contribution toward the stability of family farms in Iowa.

"There are no trade secrets in Michael's mind," wrote Luke Gran of Practical Farmers of Iowa when he nominated Natvig for the award. "He is open to sharing what is working and what is not and is eager to know why."

Natvig farms in Howard County, on the same land where he grew up. He credits his father for inspiring him to practice good stewardship. "He always had a really strong conservation ethic," Natvig said. "I remember when I was a young kid he built terraces on some of our farmland and put in waterways and had a good crop rotation on our farm, which all contributes to soil health."

Natvig continues that tradition as a fifth-generation farmer. In the late 1980s he began transitioning to organic when he

realized that farm chemicals, as well as becoming increasingly expensive, were making him sick.

"I thought there had to be a better way to spend my life than trying to use toxic chemicals," he said.

He certified the farm as organic in 1998 and began restoring native prairies and wetlands on the property. He also took advantage of an opportunity to graze cattle on a streamside pasture on the Norman Borlaug Heritage Farm, the birthplace of the man credited with starting the "Green Revolution." No cattle had grazed there for the previous decade, so Natvig carefully monitored the water quality and vegetation along the stream. He discovered that as long as he rotated cattle through the pasture every few days, the stream habitat remained healthy.

Natvig is a longtime member of Practical Farmers of Iowa, a partnership that helps him conduct on-farm research into non-GMO corn varieties, organic methods of parasite control in livestock, and other studies that will help him run a better farm.

In 2002, he was one of 12 Iowa farmer-cooperators who conducted on-farm research trials to compare soil organic matter and nutrient use on organic and conventional farms. The work was part of a more comprehensive project that included farms in Illinois and Wisconsin and involved several agencies, foundations and the Michael Fields Institute, which recommended Natvig for the Spencer



Mike Natvig hangs out with another PFI farmer-cooperator, Dan Specht, at a field day. Photo courtesy of Practical Farmers of Iowa.

Award.

"He really does good farming and thinks deeply about how to make it better," wrote the institute's research director, Walter Goldstein. He added that his work with the Borlaug Farm has been an important part of the sustainable farming movement. "Mike has had to show what sustainable, organic farming can do in the face of a different mindset," Goldstein wrote.

Natvig said that it takes a whole new set of management skills to make organic farming work. "You've got to have the belief that it's the right thing for you to do, the right thing for your farm and the land," he said. "For the long-term health of the soil and the land, and the farm in general, it worked out well for our family."

Scenic Valley Produce connects local growers, summer camps

Kids in summer camps across central Iowa enjoyed fresh, local produce on their plates at lunchtime, thanks to a new entrepreneurial program called Scenic Valley Produce.

Scenic Valley Produce began collecting and distributing fresh fruits and vegetables earlier this year with a small special project grant from the Leopold Center's Cross-Cutting Initiative and the City of Ogden. The program, created by the Value Added Agriculture Program at Iowa State University Extension, began with five growers and five summer camps in central Iowa. It focused on using high tunnels – simple plastic-covered structures heated by sunlight – to extend the growing season.

"We wanted kids to be aware of local foods outside of the school system," said Molly Foley, an undergraduate in ISU

Agricultural Communications and the first intern for the project. "We wanted them to know what they're eating is local stuff and it came from five miles down the road."

Growers delivered their produce to a central facility in Ogden that had been converted from an old convenience store. There, Scenic Valley Produce staff washed and packaged it before making deliveries to camps and other facilities. Joe Monahan of Heavy Hooves Farm noted that combining produce harvests makes it easier for small farms to create a reliable, consistent supply.

"As a group we can come a lot closer to meeting the needs of large-scale consumers much more efficiently than any one of us would be able to do individually," Monahan said.

In its first year, the program encountered several challenges with coordinating

between the amount the growers could provide and what customers required. "While it took a while to get product to match our needs, the quality of the food was always impeccable," said Will Shelton, the program coordinator at Camp Hantesa. "We enjoyed the opportunity to engage with our local growers, and to support a greener central Iowa."

Scenic Valley Produce hopes to continue the program for at least five years. The growers involved for the program's first year included Heavy Hooves Farm, Swanson Family Farm, Healthy Berry Farm, Rinehart Family Farms, Wilber's Northside Market and Nature Road Farm. The summer camps involved were Camp Hantesa, 4-H Camp, Camp Sacajawea, Hidden Acres Camp and Sunstream Retreat Center.

Lappé brings message of hope to farm, food audiences

If hope could be extracted, bottled and sold, Frances Moore Lappé would be its celebrity spokesperson on the late-night infomercial.

In October, nearly 40 years after she wrote *Diet for a Small Planet* that changed the way Americans view global hunger and natural resources, she brought her message of hope to central Iowa. Lappé spoke in Ames and at the Iowa Environmental Council annual conference in Des Moines about the newest of her 18 books, *EcoMind: Changing the Way We Think to Create the World We Want*. Her appearance was supported by a small grant from the Leopold Center's competitive educational support program.

Lappé encouraged her audiences to become involved in big issues, and stressed that the way they think about those big issues may be key to solving them. She explained that the most common way to view global hunger or climate change is to focus on individuals who must compete for finite resources resulting in conditions that lead to scarcity, fear, lack of trust and a

spiral of powerlessness.

"With an eco-mind, it's all about connection throughout the natural world, where there is continuous change and creation," she said.

She noted that this positive mindset in the local food movement and efforts to view farming as part of a larger, agro-ecological system. She offered numerous examples, taken from her book, where people are working together to re-forest a landscape, add to their food security and recycle wastes to keep local economies strong.

She warned against three conditions that

"bring out the worst in us": concentrated power, lack of transparency and blaming. To avoid these conditions, she urged

listeners to support efforts and programs that lead to continuing dispersion of power, transparency and mutual accountability.

"We have much more power than we thought we did," she said. "In fact, the only choice we don't have is whether to change the world. Because every act with an eco-mind, somebody's watching, somebody is affected, some reaction is happening – and even our inaction changes things around us, often in a way we don't wish, but nonetheless, it's power."



Credit: Iowa Environmental Council

More in the Agriculture for Life website of the Iowa Environmental Council: http://www.iaenvironment.org/conference/Annual_Conference.php.

Information, inspiration focus of 2011 Pesek Colloquium

Optimism for the role of universities and the power of information filled Andrew Revkin's talk for the 2011 Pesek Colloquium on Sustainable Agriculture. Revkin, author and award-winning blogger on environmental issues, spoke at Iowa State University on October 24 on the question, "9 Billion People + 1 Planet = ?"

Revkin is a senior fellow and lecturer at Pace University's Academy for Applied Environmental Sciences and a former science reporter at the *New York Times*. He writes the *Dot Earth* blog, which examines efforts to balance human affairs with the planet's limits. Readers of the blog foray into a world where words, images and

videos create an interactive discussion about climate change, population growth and sustainability.

"My opinion is that science matters," Revkin said. "On issues where science leads to complexity, complexity matters." He described *Dot Earth* as a "reality-centered" blog that helps readers sift through the wealth of available information – from YouTube videos to scientific studies – and raises meaningful questions about the future of the planet.

Revkin pointed to the powerful role that universities can play as centers of knowledge, places to learn and share skills, and global leaders for change. Twitter, Facebook, Skype and other networking

technologies allow students and experts around the world to connect, converse and inspire one another.

"The ability to shape and share ideas has never been greater," Revkin said. To prove his point, Revkin showed a video of an earthquake-resistant building design, played the sound of ice cracking on the North Pole, and spontaneously Skyped with Rusty Schweickart, the NASA astronaut who piloted Apollo 9 in 1966.

Read Revkin's blog at <http://dotearth.blogs.nytimes.com>.

The Leopold Center co-sponsors the Pesek Colloquium, which honors John Pesek, Iowa State University emeritus professor of agronomy.

FIELD DAYS, PUBLICATIONS AMONG ILF'S ACCOMPLISHMENTS

PARTNERSHIP (continued from page 1)

year:

- Monthly webinars on various topics, including research supported by the Leopold Center
- Five workshops on cover crops, no-till planters and strip-tillage
- Creation and distribution of three new how-to videos on adding a cover crop to a corn-soybean operation, using grass waterways and manure management

- 24 field days attended by 1,100 people
- 80 Conservation Station events attended by over 13,000 people

Among the new resources will be educational materials that look at prairies, wetlands, food systems and the Iowa landscape for the youth education program and the Conservation Station.

ILF began as a research and demonstration project in 2005 and was

coordinated by Leopold Center director Jerry DeWitt from 2007 until his retirement in mid-2010. ILF funding partners are the Iowa Department of Agriculture and Land Stewardship, ISU Extension, Natural Resources Conservation Service, Iowa Department of Natural Resources and the Leopold Center. Cooperating partners are the Conservation Districts of Iowa and Iowa Farm Bureau.

News & Notes

A book of essays written by Leopold Center Distinguished Fellow Fred Kirschenmann, *Cultivating an Ecological Conscience: Essays from a Farmer Philosopher* (2010 University Press of Kentucky), is available in paperback. Acclaimed writer and fellow farmer Wendell Berry offers praise for the writings that span 30 years of Kirschenmann's life. "The essays are thorough, and radical in the right sense of that word. I like them for their implicit goodness of heart," Berry wrote. "I'm finding in almost every page something I need to know, or a needed clarification of something I already knew." The paperback version is published by Counterpoint. Ag economist Connie Falk edited the essays, some of which have appeared in this newsletter.

ISU animal science professor Jim Russell received the Dean Kolmer Award for Excellence in Applied Research from the ISU College of Agriculture and Life Sciences. Russell, who joined the faculty 31 years ago, was honored for his work to improve the economic and environmental sustainability of beef cow-calf production in Iowa. He has been a longtime Leopold Center research partner. His most current projects focus on mob grazing (see page 6) and ways to minimize nonpoint source

pollution of pasture streams.

Craig Chase, interim leader of the Leopold Center's Marketing and Food Systems Initiative and an ISU extension farm management specialist, is co-author of a new book on financial management. *Fearless Farm Finances* is published by the Midwest Organic and Sustainable Education Service based in Spring Valley, Wisconsin. Chase helped present two days of training based on the book in early December. Other authors are northeast Iowa farmer Chris Blanchard and Paul Dietmann, director of the Wisconsin Farm Center at the Wisconsin Department of Agriculture, Trade and Consumer Protection.

A new Leopold Center brochure provides an overview of the Long-Term Agroecological Research (LTAR) Experiment at Iowa State University's Neely-Kinyon Research Farm in Adair County. The project, begun with funds from the Leopold Center in 1997, is the longest-running side-by-side comparison of conventional and organic practices in the nation. Find the brochure, *The LTAR Experiment*, on the Center's Pubs & Papers web page: <http://www.leopold.iastate.edu/pubs>.

Iowa Learning Farms has published a new book, *Water Quality Matters To Us All*, that offers insight into Iowans' views and practices with regard to water quality. Request a free copy by email, ilf@iastate.edu. The book is based on listening sessions conducted over three years with farmers, urban residents, Soil and Water Conservation District commissioners and agency field staff. *Water Quality Matters To Us All* diagnoses the current level of apathy toward improving water quality by recounting debates about conservation practices within the context of historic high corn prices, increased flooding and dramatic rain events, and decreased soil quality.

A new fact sheet based on Leopold Center-funded research is now available from Iowa State University Extension and Outreach. *Woodchip Bioreactors for Nitrate in Agricultural Drainage* (PMR 1008) explains how bioreactors capture and treat tile-drained water. The research, conducted by ISU graduate student Laura Christianson and ISU ag engineer Matthew Helmers, shows that this tool can remove 15 to 60 percent of the nitrate in tile water (see stories in the summer issues of our 2009 and 2011 newsletters). Download the publication at www.leopold.iastate.edu/pubs, or watch an On the Ground video at www.leopold.iastate.edu/news/on-the-ground.

Regional Food Systems Working Group revitalizes efforts

If attendance at the last meeting of the Regional Food Systems Working Group (RFSWG) is any indication of its future, count them in.

Local food representatives from throughout Iowa filled the Campanile Room at the Iowa State University Memorial Union on December 8. The group is transitioning to a new leadership structure because funding ends in 2011 for its umbrella organization, Value Chain Partnerships.

"This whole process – when the steering committee was formed and we started laying the groundwork – has been reaffirming to me," said Andrea Geary, who co-leads the group with Jason Grimm. Geary works with the Northern Iowa Food and Farm Partnership at the University of Northern Iowa. "I see good things

happening when people take ownership and pitch in according to their strengths and resources," she said.

Nearly all of the 16 local food groups had representatives at the meeting. Jessica Burt, who works with Iowa Valley Resource Conservation & Development in Amana, is serving as the RFSWG meeting coordinator.

Joanna Hamilton, Leopold Center intern last summer, met with all group leaders to identify key lessons and discuss where they hope to be in the next five years. Her report will be available soon.



Steering team (left to right) for the RFSWG's next phase: Jan Swinton, Detra Dettmann, Andrea Geary, Jan Libbey, Sherry McGill, Jason Grimm and Teresa Wiemerslage. More about the local groups at: www.leopold.iastate.edu/marketing/regional_food_system



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Highlight Events

Learn about how to get support for events: www.leopold.iastate.edu/grants/

Spencer Award

Winners of the 2011 Spencer Award for Sustainable Agriculture will be honored in a special presentation March 1 during the quarterly meeting of the Leopold Center Advisory Board. The presentation will begin around 11:30 a.m. at the Hilton Garden Inn in Ames. Read about this year's dual winners, Mike Natvig and Bernard "Bernie" Havlovic, on pages 8-9.

2012 Shivers Lecture

Acclaimed author, biologist and cancer survivor Sandra Steingraber will present "Environmental Pollution, Climate Change and Our Health" on Sunday, March 4 at 7 p.m. in the Sun Room of the ISU Memorial Union. Her latest book is *Raising Elijah: Protecting Children in an Age of Environmental Crisis*.

Ames Reads Leopold

The focus will be youth for this annual event that is part of Aldo

Leopold Weekend activities across the country. The Ames group celebrates its fifth anniversary of coming together to read out loud from Leopold's *A Sand County Almanac*. The event will take place Sunday, March 4 at the Ames Public Library.

Symphony of the Soil

The Leopold Center and UNI's Center for Energy and Environmental Education will bring award-winning filmmaker Deborah Koons Garcia to Iowa for the screening of her newest work, *Symphony of the Soil*. The feature-length film explores soil from its birth and many creatures making up the soil community to nutrient cycling and our relationship with soil to the latest research on how soil can help solve environmental problems. Garcia and assistant Jessica Beckett will lead discussions after the Cedar Falls screening on March 27, and the Ames screening on March 28.

More details, events

Check Leopold Center Web calendar:
www.leopold.iastate.edu/news/calendar

National award

Leopold Center Distinguished Fellow Fred Kirschenmann (right) poses at a press briefing in New York City after he received the James F. Beard Foundation's Leadership Award. He and nine other "food pioneers" were honored for their dedication to sustainable food and farming systems. With him is New York chef and foundation board member Dan Barber, who works with Kirschenmann at the Stone Barns Center for Food and Agriculture.

