Iowa Nutrient Reduction Strategy ties to the Leopold Center

The Ripple Effect

By CAROL L. BROWN, newsletter editor

Since the first sod was overturned on the Midwestern landscape, there have been side effects along with the bountiful crop production. Iowa’s landscape has experienced significant soil erosion and nutrients leaving crop fields through runoff or subsurface drainage.

The Iowa Nutrient Reduction Strategy (NRS) was announced in 2013 with the goal of bringing cleaner water to Iowa, downstream, and ultimately the Gulf of Mexico. The strategy recommends practices that have been vetted by scientists and demonstrated on working farms. Many of these practices have been researched through the long-running competitive grants program at the Leopold Center. Educating farmers and landowners about these practices and seeing them established on the land takes effort and time.

Aldo Leopold knew this as well and comments in his “Land Ethic” essay, written nearly 70 years ago:

“Accordingly the Wisconsin Legislature in 1937 passed the Soil Conservation District Law. This said to farmers, in effect: We, the public, will furnish you free technical service and loan you specialized machinery, if you will write your own rules for land-use… but after a decade of operation, no county has yet written a single rule….

“When one asks why no rules have been written, one is told that the community is not yet ready to support them; education must precede rules… The net result is that we have more education, but less soil, fewer healthy woods, and as many floods as in 1937.” (p. 208-209)

Nearly 30 years ago, the Leopold Center was established with the 1987 Groundwater Protection Act. The Center began awarding grant money for research in its second year. A little more than $300,000 was allotted to fund research for 16 projects in the areas of nitrogen management, greater energy efficiency, cropping systems, integrated pest management, livestock management, and the impact of agriculture on ecosystems. The following year, 1989, the Center provided grant dollars for a cover crop study.

Researchers submitting proposals for their projects seemed to be ahead of their time,

“The Leopold Center has been given a mission that at first seems almost impossible. Yet we feel that with the cooperation of research scientists, educators, and extension personnel and with the direct input of Iowa’s exceptionally talented farmers and citizens, this mission is indeed reachable.”

—Dennis Keeney, LCSA newsletter, 1990

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New Iowa State University research shows more cattle in Iowa may limit ag-related greenhouse gas emissions

By FRED LOVE, ISU News Service

A new study co-authored by an Iowa State University researcher indicates that an increase in cattle production, and associated forage land, on Iowa’s agricultural landscape could lead to lower greenhouse gas emissions.

The research, published recently in the peer-reviewed Journal of Soil and Water Conservation, found that cattle production yields a smaller percentage of greenhouse gas emissions than row-crop cultivation.

That suggests integrating more cattle production into Iowa’s agricultural portfolio may cut the state’s greenhouse gas emissions and lead to other environmental benefits, said Mark Rasmussen, director of the Leopold Center for Sustainable Agriculture at Iowa State University and co-author of the study.

But those benefits largely would depend on new forage land on which the cattle would feed, Rasmussen said. More forage and pasture land means more roots in the ground holding soil in place and increasing the land’s capacity to store carbon, he said.

“If it’s a way of putting more carbon away than you’re putting into the atmosphere,” Rasmussen said.

“The paper shows that bringing more cattle back to Iowa and, as a consequence, adding more land for forage and perennial grasses, would actually be beneficial in the context of greenhouse gas emissions that result from agricultural activities,” he said.

“It’s a way of putting more carbon away than you’re putting into the atmosphere.”

Cattle produce the greenhouse gas methane through their ruminant digestive process. But those emissions make up a smaller percentage of anthropogenic, or man-made, emissions than row-crop production, Rasmussen said. The study found that ruminants generate 11.6 percent of total anthropogenic emissions, while cropping and soil-associated emissions contribute 13.7 percent.

On the other hand, converting acres currently devoted to crops into forage land would cut down on carbon emissions that result from organic matter released by soil erosion, Rasmussen said. More forage or perennial grasses would improve the environment in other ways as well.

Less runoff from fields would protect water quality, and more grazing land would create new habitat for pollinating insects, he said. And adding forages such as alfalfa in longer crop rotations can actually build organic matter in the soil over the course of a few years.

“Soil degradation is a long, gradual process so it’s easy to ignore sometimes,” Rasmussen said. “Soil has been ignored for a long time, but this might be a way of rehabilitating vulnerable land.”

Rasmussen acknowledged that serious challenges stand in the way of integrating more cattle into Iowa’s agricultural infrastructure. Converting land from row crops to grazing land for cattle would require a significant investment in new facilities and equipment, he said. And grass-fed cattle take more time to get to market than grain-fed cattle and require different genetics.

He also cautioned that the best results depend on cattle production that practices responsible use of forage land. Overgrazing a section of land can actually result in more erosion, Rasmussen said.
For the greater good

We tend to think of our modern era as one where public good and private interests may not be in synch with each other, but nearly a century ago there was a food and agriculture issue that displayed the full range of human passions, foibles and tragedy. I leave it to the readers to form their own personal interpretation of these historical events in relation to contemporary agriculture.

America was changing rapidly in the early 1900s as the country became more urban, less rural and more industrialized. Many changes disrupted society and forced adaptations that would have seemed unthinkable only a few years before. A rural-urban divide was developing and the food industry was a key player in this transition.

One aspect of that change was the movement to force urban cow sheds further out into the country. Development of refrigeration and liquid transport facilitated this change which meant that milk cows no longer needed to be kept in town to ensure rapid delivery and the freshness of milk. As a result, urban dairies declined in number and supply chains from “cows to consumers” grew longer. The public health benefits of this trend were mixed. As dairies moved out of the city, there was less local oversight in regard to herd health and production cleanliness standards. Concerns grew about a continuing need to monitor wholesomeness.

In 1900, tuberculosis (TB) was still the leading cause of death in the United States. While many of the cases were of pulmonary TB transmitted from person to person, it was estimated that 25 percent of TB in children (especially the debilitating intestinal form) came from drinking TB-contaminated milk. Public health officials advocated for better dairy hygiene and academic microbiologists spoke of implementing “energetic control of the milk supply.” The rural-urban divide intensified as public health versus private property rights was debated.

By the late summer of 1931, the conflict in some counties grew to such a degree that Governor Turner declared martial law. He ordered in National Guard troops who on some farms had to march against the assembled protestors with fixed bayonets.

In terms of the disease, the microbiology of TB was understood as early as 1882, when Robert Koch announced the results of his ground-breaking experiments and the medical profession accepted evidence of its infectious nature. Dr. Bernhard Bang, a Danish veterinarian realized the role that infected cattle and milk played in TB transmission and argued for creation of an eradication campaign. Denmark enacted The Danish Tuberculosis Act of 1893 and most of Europe and the United States followed.

The eradication process involved testing cattle, identifying and controlling the movement of positive reactors followed by culling and slaughter. As the eradication campaign gained steam, the United States was credited with pursuing testing and eradication with “unflinching resolve.” In 1917, when the first eradication laws were enacted it was estimated that 5 percent of the cattle were TB positive. It soon became clear that eradication was effective when pursued vigorously overcoming doubts about implementing regulations on such an extensive scale. Death from this form of TB declined 91 percent from 1910 to 1932 in Massachusetts; and by 1940, bovine TB in the United States was considered under control.

But, across the country, there were challenges to the eradication campaign. Pasteurization of milk, which was well developed by 1900, was promoted by some interests as an easy substitute for eradication. Use of this process was attacked by critics who claimed it enabled dirty milk production when the goal should be to produce healthy milk without this “unnatural” treatment.

In some parts of Iowa, eradication became a challenge. Iowa did not pass a compulsory bovine TB law until 1929, even though the State Veterinarian had knowledge of the TB problem as early as 1894. Farmers’ resistance to eradication varied, but included several long-simmering factors such as frustration with the Hoover

RASMUSSEN continued on page 4
administration and the poor farm economy, suspicion of the TB test’s accuracy, mistrust of this unseen science of microbiology, doubts that bovine TB caused human disease, a mistaken belief that the test caused abortions in cattle, potential loss of valuable stock, risk of being identified as a TB farm, and resentment over the indemnity payment system. The most widespread concern was that compulsory eradication was an infringement of private property rights and a burden on the farming industry.

The indemnity payments also were an especially controversial aspect of the eradication efforts. Indemnity for culled animals was based on a shared cost basis with one-third being federal, one-third state and one-third farmer. In 1930, the average appraised value of TB-positive cattle was $89 with a salvage slaughter value of $42. Therefore the federal, state and farmer share of the indemnity cost was $15.66 each. This was a significant cost in the Depression years.

By 1931, after the Iowa Supreme Court had ruled the TB testing law valid and a mass rally of farmers at the state capital failed to persuade lawmakers or the governor to change or weaken the law, resentment grew into open defiance in spite of court injunctions against interfering with the testing procedures. This was especially pronounced in southeastern Iowa. State veterinarians and accompanying law officers encountered threats, skirmishes and violence as they were denied access or physically forced from the farms of some objectors.

Some rural radio announcers fanned the flames of resistance making “on air” verbal personal assaults against officials and eradication proponents. News of the resistance was widely reported by the Des Moines Register, Chicago Tribune and even the New York Times. By the late summer of 1931, the conflict in some counties grew to such a degree that Governor Turner declared martial law. He ordered in National Guard troops who on some farms had to march against the assembled protestors with fixed bayonets. In the end, the rule of law prevailed, state veterinarians completed the testing of the state’s cattle herd, some opponents spent time in jail and eradication was virtually complete by the end of the decade.

In contrast to the United States and most of Europe, the bovine TB eradication situation in Great Britain was longer lasting and even more troublesome. Rural eradication opponents clung to “voluntaryism” as a policy and effectively opposed government interference and regulation. The British veterinary profession was split as well, with academics speaking in favor of compulsory eradication, while the rural field vets sided with farmers in opposition to the process. Legislators in opposition to the program used many stalling tactics. Bills were passed, but not enforced, and then were repealed as little progress was made. Active subterfuge also was used to pre-inject cattle so the official test would be negative. Veterinary professionalism it seems was overridden by expediency. As a result, Great Britain still had a significant bovine TB and public health problem as the country entered World War II. Even after the war in 1946, it was determined that 7-10 percent of the “pasteurized” milk sold in London still contained live TB microbes.

Today we can look back on this issue and appreciate the effort and sacrifice that was necessary to bring this serious disease problem under control. It was a significant accomplishment and we are beneficiaries of this work even as the testing and eradication process continues to this day (fortunately at a much reduced level). As we approach the 100th anniversary in 2017 of the bovine TB eradication effort in the United States, I personally take note of the resolve and determination required to take action for the greater good. We can be thankful for what they accomplished.

Mark Rasmussen

For Further Reading:

In his new book, *Half-Earth: Our Planet’s Fight for Life*, noted biologist E.O. Wilson reminds us what our role on planet Earth might be. From his perspective, it clearly is not being the dominator species, the role we have largely assigned to ourselves. Since the emergence of the industrial revolution that presumption seems to have become part of our culture.

In the early 17th century, Rene Descartes and Francis Bacon asserted that it was our responsibility to become the “masters and possessors” of nature and “to bend nature to our will.” While that may have seemed somewhat extreme to our ancestors, it has become standard operating dogma in our time. In fact, we have now entered into a new era which we call the “Anthropocene,” a time where the “destiny of the planet” has to be “completely taken over and ruled by humanity.”

Wilson believes that this is “the most dangerous worldview” we humans have ever adopted, and it reflects a kind of hubris that fails to acknowledge how nature actually functions. Furthermore, according to Wilson, this hubris has even infiltrated the environmental and conservation movement. Many environmentalists now seem to believe that the only way we can “save” the planet is through our technology and engineering, rather than setting aside at least half of nature to perform its self-renewing functions.

Unfortunately, that industrial culture mind-set has led us to believe that we humans are in charge and that it is our responsibility to make nature serve our wants and needs. It led us to view nature in Aldo Leopold’s words, as a “commodity belonging to us’ rather than a “community to which we belonged.”

Yet nature is a community with a long history of evolution that is ultimately self-regulating and self-renewing, and has its own capacity to determine its future as well as the future of humans. This is why Wilson correctly believes it is in our best interest as a species to preserve the planet’s biodiversity of the wilderness and learn to adapt to it. It is in our self-interest to devote at least half of the Earth’s surface to a wilderness of nature.

This may seem like a daunting task, given the current growth rate of the human population and the extent to which we have destroyed natural habitats to allow for our progress and development.

However, he makes a compelling case that we could devote half of the planet to the wild life of nature, and should immediately make a commitment to do so.

Furthermore, Wilson points out that “…the word ‘wilderness’ refers to undomesticated places not yet yoked to the human will. In the parlance of conservation science, ‘wilderness’ means a large area within which natural processes unfold in the absence of deliberate human intervention where life remains ‘self-willed.’”

Admittedly, Wilson’s proposal will be a difficult undertaking in our culture of seemingly unlimited economic growth. Yet as John Thackara recently pointed out, a new economic culture of “bioregionalism” already is emerging. In this new economic culture, appropriate growth is assumed to consist of the “regeneration of life on earth” rather than our self-destructive, unlimited economic growth. If that is already happening in many regions of the planet, then reserving large areas where natural processes can unfold in the absence of deliberate human intervention also would be possible.

Of course, we have already learned from our millennia of “viewing the world” as it actually evolves that the regeneration of life is central to how the world works and so it is certainly in our self-interest to take Wilson’s ideas seriously. We should begin reserving that “half of earth” to wilderness where nature can perform its self-renewing functions in the interest of regenerating life on earth.

And while we are at it, we can incorporate practices on our agricultural lands that support rather than diminish that capacity. Planting prairie strips in row crop fields, installing terraces, wetlands and streambank buffers all promote the regeneration of wildlife and biodiversity here in Iowa.

Furthermore, we can begin to imagine at least 60 percent of our annual, monoculture cropland planted into perennial polycultures, as envisioned by the Land Institute of Kansas. Such an agricultural landscape would mimic rather than dominate nature—and could even enhance the capacity of agriculture to contribute to the regeneration of life on Earth.

References:
The Land Institute: landinstitute.org
The establishment of the Iowa Nutrient Research Center at ISU offers the Leopold Center another entity to partner with. John Lawrence, ISU Associate Dean for Extension and Outreach, and ISU Extension Beef Specialist Dan Loy head a project that explores cattle grazing on cover crops through funding from the Nutrient Research Center and the Leopold Center.

testing better ways to combat nutrients leaving fields, reduce soil erosion, and improve livestock health.

The Leopold Center’s first director, Dennis Keeney, started the Center’s operations from scratch in a time when the agriculture industry was in crisis mode. With the words “sustainable agriculture” undefined, Keeney said that he carried “a charged message about change while not having any defining matrices.”

He wrote in his director’s column in the Center’s second newsletter:

“The Leopold Center has been given a mission that at first seems almost impossible. Yet we feel that with the cooperation of research scientists, educators, and extension personnel and with the direct input of Iowa’s exceptionally talented farmers and citizens, this mission is indeed reachable.”

**Groundwork for Nutrient Reduction**

In 1988, the Leopold Center funded the installation of groundwater collection sites on established plots at the ISU Northeast Research Farm near Nashua. A researcher quoted in the “Year 1 LCSA Progress Report” (Grant #88-10) said:

“The short-term objective of this project was to equip a field hydrology laboratory at the site in order to collect the data necessary to study more fully the effects of four tillage systems…

Subsurface drain lines for each plot (36) were intercepted and rerouted to 10 collection sites. The collection sites only were installed in 1988… soil, water and plant sampling are now underway.” ISU researchers are still relying on this hydrology system for their projects. Matt Helmers, professor in the Agriculture and Biosystems Engineering Department, says that there have been numerous projects using the water monitoring system installed at Nashua.

“It’s been 25-plus years that tile drainage has been intensively studied and that information has heavily been used in the Nutrient Reduction Strategy science assessment,” said Helmers. He is one of the scientists who authored the NRS and said that they referred to scientific literature to help decide what should be in the recommendations.

“So much of the water quality literature referred to projects funded by the Leopold Center,” stated Helmers. “Much of the water quality data from Iowa was directly funded by the Leopold Center or the Center had some seed money: work on buffer systems long ago, saturated buffers, bioreactors, and some of the cover crop work.”

The NRS recommends selecting from a suite of conservation practices that will work best on individual farms. The recommendations encourage landowners to employ as many practices as they can in order to do their part in reducing the amount of nitrogen and phosphorus leaving their land.

**Agriculture’s future**

An unexpected outcome of the Center’s research program is the amount and quality of work completed by graduate students. Keeney remarked that he “was most surprised and gratified at how the issue teams sprouted graduate students that came with these teams. Many have gone on to be leaders nationally and internationally.”

Helmers concurs. He recalls Alok Bhandari and Laura Christianson’s bioreactor studies. He believes that Bhandari’s Leopold Center funding jump-started that work in Iowa.

If researchers were looking at cover crops and drainage water quality 30 years ago, what will the future of agriculture look like? Current research projects at the Leopold Center include alternatives for fuel sources, technological advances for nitrogen application and soil fertility, new ways for producers to connect with consumers, and ideas on how agriculture can adapt to climate change.

“Funding studies that will impact the future is just one way to work toward the betterment of agriculture,” says Center Director Mark Rasmussen. “There are many researchers, agricultural groups, and others who have the same goals as the Leopold Center. We need to build upon previous research. We work on the shoulders of those that came before us. We use research to get better answers for our soil and water quality problems.”

It is nearly impossible to predict what agriculture will look like 30 years from now, but new scientific findings will create ripples throughout the agriculture industry down to individual farmers and landowners.
Request for 2016 pre-proposals open

The Leopold Center is now accepting pre-proposals for the annual competitive grants program.

Part of the Center’s mission is to identify and reduce negative environmental and socio-economic impacts of agricultural practices and to contribute to the development of farming systems that conserve natural resources while remaining profitable. The competitive grants program helps carry out this mission by awarding funds to those who are seeking ways to improve soil health and provide clean water for Iowans and those downstream.

There are two categories for pre-proposals: research with specific hypothesis-driven questions; and projects that carry out demonstration, educational, planning, capacity-building, or outreach efforts. Last year the Center received 50 pre-proposals and ultimately funded 16 final proposals.

For 2016, pre-proposals should fall under one of 10 subject portals (managers are in parentheses):

1. Water: Quality, hydrology, use and management. (Malcolm Robertson)
2. Soil: Knowledge and practices that positively impact the self-renewing capacity of soil. (Malcolm Robertson)
3. Landscape: Adoption of multiple sustainable practices in targeted Iowa agricultural systems and landscapes. (Malcolm Robertson)
4. Crops: Alternative crops; crop selection, development, cultivation practices, and factors contributing to plant health or productivity. (Malcolm Robertson)
5. Integrated Farming Systems: Crop-livestock production systems (mixed or integrated) designed to clearly demonstrate improvement to the quality of soil, water, air, wildlife habitat and the landscape. (Malcolm Robertson)
7. Livestock Systems: Livestock enterprises, nutrition, grazing, housing and other practices used in livestock husbandry. (Malcolm Robertson)
8. Policy: Economic, legal, and business aspects of agriculture and farming, as well as public programs which impact agriculture. (Mary Adams)
9. Social: Interactions of various stakeholders, organizations and interest groups focused on food and farming. (Mary Adams)
10. Marketing and Food Systems: Raising awareness of local food systems opportunities and building capacity for food systems professionals, organizations, and projects. (Craig Chase)

There are five focus areas where pre-proposals are encouraged:

1. Soil health and associated biological processes
2. Farming options for a more diverse landscape
3. How to increase adoption of conservation practices
4. Preliminary development of a collaborative group/issue team to research a critical sustainability topic
5. Food hubs/food processing and distribution business development.

Who may submit and what to include

Investigators representing any Iowa nonprofit organization, agency and/or educational institution may submit a pre-proposal. Farmers, landowners, and farm-based businesses cannot apply independently, but are encouraged to partner with an eligible investigator or organization.

Pre-proposals should include a two- or three-page concept paper with the required elements:

- Strategies: Include project objectives and the activities that will help achieve project outcomes.
- Anticipated outcome(s): If objectives are achieved, how will the research contribute to more sustainable agricultural systems, increased resilience on the Iowa landscape or more vibrant food systems?
- Outreach: How and with whom will project results be shared? Describe plans to work with state agencies and/or NGOs to disseminate information to producers, landowners and others.
- Budget: Provide financial explanation assuming that the project will start February 1, 2017.

Pre-proposals should have a separate cover page that includes project title, contact information for the principal investigator; dollar request per year; and the portal that best fits the pre-proposal.

How to submit pre-proposals

An electronic copy of the pre-proposal (sent via e-mail or delivered on a CD) or one hard copy must be received by 5:00 pm, July 7, 2016. The electronic version should be saved as a .doc, .docx, or .txt file as one document, or a PDF contained or attached with the e-mail. Emails should be sent to the appropriate manager below with “LCSA 2016 RFP” in the subject line. Leopold Center Director Mark Rasmussen should be cc’d on all submissions.

- Craig Chase, email: cchase@iastate.edu
- Malcolm Robertson, email: malcolmr@iastate.edu
- Mary Adams, email: madams@iastate.edu
- Mark Rasmussen, email: markras@iastate.edu

Pre-proposals will be screened and an invitation to submit a full proposal will be based upon review by the Leopold Center Advisory Board and staff. The Center will notify all applicants in September as to whether they will be invited to submit a full proposal. Full proposals will be due October 31 and funding decisions will be made by early January 2017.
Graduate students leave a legacy of research

Ahna Kruzic

Ahna’s research interests include the intersections of the agrifood system, racial justice, and rural sociology—and identifying variables to success for enabling communities’ development of local food systems.

A native of Albia, Iowa, Ahna earned her undergraduate degree in Sociology and Women and Gender Studies at Iowa State University. She also studied the enabling impacts of community capitals on sustainable dairying. After traveling and working in Eastern Europe, China, Iowa, and Colombia, she returned to ISU to earn an MS in Sustainable Agriculture and Sociology, while working with communities in local food systems development.

Her thesis, “An equitable alternative to conventional agriculture? Discourses of whiteness and color-blind racism in local foods systems,” examines discourses evoked by active, engaged participants across the local food systems movement, and how these dialogues demonstrate hegemonic whiteness and color-blind racism. Ahna argues that a critique of white privilege within our local foods movements and a disruption of “local means equitable” is necessary to build sustainable agrifood movements that dismantle injustices typically associated with the globalized agrifood system.

Ahna will be moving to Oakland, Calif., to begin work as the Publication and Communications Coordinator for the Institute for Food and Development Policy, better known as FoodFirst.

Savanna Lyons

Savanna’s research focuses on best practices in aggregation and distribution of local foods, with an emphasis on food hub financial management, business models, and coordinating production among farmer groups. Over the past two years Savanna has traveled around the country interviewing food hub managers and reviewing their data, and has written 11 local foods Extension publications at ISU. She also facilitates the Food Hub Managers Working Group, a peer learning community of food hub managers which have been meeting quarterly in Iowa since summer 2015.

Savanna received a BA in Environmental Science and Public Policy from Harvard University. Before joining the Leopold Center and Iowa State University Extension and Outreach, she worked on a variety of community and workforce development projects in West Virginia, where she helped to start a farmers market and was an active board member with the West Virginia Farmers Market Association. During 2010-2013, she was the founding director of the West Virginia Food & Farm Coalition, a statewide nonprofit focused on food systems development, state food policy, education, and collective action. She also served on the Northeast Sustainable Agriculture Research and Education (NESARE) administrative council and helped launch a $1 million technical assistance program for West Virginia food business owners.

Savanna came to Iowa in 2014 and recently earned an MS in Economics and Sustainable Agriculture at Iowa State University. Her thesis, “Ratios and benchmarks as tools for local food hub decision-making: a comparative case study,” examines the finances of four different food hubs, looking at what a set of financial ratios and benchmarks can tell us about the challenges faced by those businesses.

This summer, Savanna will be working as operations manager at FarmTable Procurement and Delivery out of Harlan, Iowa. Owned by farmer and entrepreneur Ellen Walsh-Rosmann, this local food wholesale and distribution business works with small and mid-sized farms helping bring their fresh, organic produce, local dairy, and other products to chefs, grocery stores, and buying clubs in Iowa and Nebraska. Savanna also will continue to facilitate the Food Hub Manager Working Group meetings and work with the ISU Extension and Outreach Local Foods Team.

“For me, the Local Foods Team and the Leopold Center have been great platforms to connect with people around the country who are trying to build equitable, values-based sustainable food systems,” Savanna says. “I’m also constantly amazed by the grassroots leadership in the sustainable agriculture community here in Iowa. I have loved getting to know the community of people here who farm, support farmers, and market their products.”
Local Foods Team leader Craig Chase recently was honored twice at the Iowa State University Extension and Outreach Annual Conference awards ceremony in Ames. He earned the Excellence in Partnership to Iowans Award and the Excellence in the Scholarship of Community Engagement Award.

The Excellence in Partnership to Iowans Award goes to the individual who demonstrates meaningful interaction with Iowa-based educational entities, municipalities, counties, agencies and or industries while assisting Iowans in understanding and benefiting from ISU Extension and Outreach’s mission and modeling a highly positive example of the organization in work with Iowans.

Chase ensures the support of community-based learning and decision-making along with the Local Foods Team staff by honoring local realities, culture and values. He is the example of a “servant leader” and encourages all members of his team to do the same by seeking collaboration rather than competition. His work focuses on seeking appropriate levels of change to enhance the food system statewide.

The Excellence in the Scholarship of Community Engagement Award honors those who reach a broad amount of participants through Extension and Outreach work, supported by data, and secure external funding for programming with local, regional or national-level grant awards.

Chase has helped grow the Local Foods Team from four members in 2011 to 19 in 2016. The team works with different colleges and departments at Iowa State University, in local communities, and with statewide groups and programs. In 2015, he and the team surveyed more than 100 county Extension staffers engaged in local foods work, to assess their professional development needs.

The Local Foods Team is expanding

Leigh Adcock has joined the team as a part-time communications specialist. Leigh grew up on a family grain farm in Pocahontas County and has worked in radio, television, print journalism, public relations, and non-profit management. She and her husband live near Ames and have two grown sons.

“I’m so impressed with what this dedicated team is doing to support the development of stronger local and regional food systems in Iowa,” Leigh said. “It will be an honor to help tell more people about the amazing work they’re supporting with our partners in communities all over the state.”

Reach Leigh at laadcock@iastate.edu

Kayla Koether is a Food Systems Specialist for Iowa State University Extension and Outreach in six counties in northeast Iowa. Kayla grew up near McGregor on a rotational grazing farm, where she got hooked on local, healthy food and regenerative farming systems.

Her passion with grazing led her to study International Agriculture and Rural Development at Grinnell College, which allowed her to travel to India and Mongolia and learn about agriculture and pastoralism abroad. Upon returning to Northeast Iowa, she served as an AmeriCorps member with the Northeast Iowa Food and Fitness Initiative, and worked in local energy with the Winneshiek Energy District.

When she’s not thinking about food, farming, and revitalizing rural Iowa, you can catch her doing yoga, playing music, horseback riding, or reading. Kayla has a partial appointment with the Local Foods Team, where she specializes in beginning farmer education and outreach.

Contact Kayla at koether@iastate.edu

Caitlin Szymanski is Program Coordinator for the Local Foods Team. Her work primarily focuses on supporting and connecting the growing number of local food coordinators and other county workers around Iowa who are working hard to build a resilient, thriving, inclusive local food system.

A Midwest native, Caitlin has a BA in political science, environmental studies, and international relations from the University of Wisconsin-Madison, a graduate degree in conflict resolution from the University of Utah, and a permaculture design certificate from Regenerative Design Institute in California. Her “hands-on” education and career path have taken her around the U.S. and internationally (Eastern Africa, Central America, the Caribbean) to work for community-based social, environmental, economic, and food justice-focused nonprofits in the roles of program manager, executive director, board member, mediator, community participant, and volunteer.

Caitlin is excited to be back in the Midwest and working with the Local Foods Team, where many of her passions intersect in helping to create a just, local, and regenerative food system here in Iowa.

Contact Caitlin at: szy@iastate.edu
When Mark Rasmussen and others at the Leopold Center for Sustainable Development at Iowa State were looking for a speaker for an annual presentation, they had an epiphany of sorts.

“Tonight, we’re going to do a little bit of farmer talk,” Center Director Rasmussen told the crowd gathered for the annual Shivvers Lecture April 5.

Three different farmers with three very different farming operations offered their thoughts on agriculture and sustainability during the event.

And while their views differed, all agreed sustainability meant long-term care for the environment and soil on the farm. They also agreed it meant being economically sustainable.

And they agreed that sustainability is going to look a little bit different on different farms, in part because an operation isn’t sustainable over the long haul unless it is aimed at the preferences and desires of the operator.

Nathan Anderson tried to explain what that means for the corn, soybean and cattle business he operates with his father, Randy, near the Northwest Iowa town of Aurelia.

If something doesn’t fit the interests of the farmer or isn’t economically or environmentally sustainable it isn’t likely to continue to be a part of the operation over time, Anderson said.

“I don’t like to spray,” he said.

In practical ways over the long term, that means adapting a system that has less need for pesticides.

Mike DeCook, who raises bison on pasture in Southern Iowa near Lovilla, farms with the belief wilderness and agriculture can exist together.

“I’ve always been kind of a wilderness guy,” he explains.

That means putting more land into native prairie and doing more to mimic the wild world.

For Laura Krouse, who runs a 72-acre vegetable farm near Mount Vernon, sustainability means finding a way to make a living on a small tract of land.

“We’re a really, really tiny little peanut of a farm,” she said. To make that work economically, she began to grow vegetables and open-pollinated corn, as well as raise chickens for eggs.

All three farmers say they are concerned about issues such as erosion and water quality. But their farm operations differ, so their approaches to sustainability are each a bit different.

For Krouse, her farm features contour strips, a pond, a wetland and the incorporation of a long-term rotation that features quite a few years of grass. She is now planning to install solar panels to power the farm buildings. She would love to have an electric tractor and to find a non-chemical way of treating Canada thistles. With the vegetables, there is going to be some fall tillage.

DeCook’s farm features bison on pasture, but it also has land in the Wetland Reserve Program and native prairie or woodland.

For Anderson, the farm looks more like a traditional Iowa corn, soybean and cattle operation. But he and his father have added cover crops and are trying to incorporate the cow-calf operation into the strategy through grazing and forage.

All agreed the government is doing some good things to address their sustainability concerns, but that it could do more.

Krouse said the state could put more money into hiring local technicians who could help farmers implement new practices.

DeCook said the government could do more to support the establishment of cover crops would also be good, she said.

Anderson said he would like to see the government change its definition of “T” — soil loss tolerance expressed in tons per acre per year — when determining soil loss. The levels now considered sustainable need to be changed to reflect the importance of soil and the danger of soil loss, he said.

DeCook said the best thing the state could do would be to pass the 3/8-cent sales tax increase aimed at conservation. Voters in Iowa approved a referendum in 2010 saying the first 3/8-cent of any sales tax increase would go toward conservation efforts.

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Drake Ag Law Center and Leopold Center team up for climate change discussion

By MARY ADAMS, Policy Initiative Leader

How will Iowa agriculture fare in a world where global climate change poses challenges for both the economic and production sectors? That was the big question at an invitation-only workshop sponsored by Drake University’s Agricultural Law Center and the Leopold Center.

More than 40 people including Iowa agency staff, farm organization leaders, agribusiness representatives, journalists, and academics, gathered on April 14 at Drake’s Cartwright Hall to discuss “What Do International Climate Change Initiatives Mean for Iowa’s Farms? A Business-Driven Response to Climate Change—a Drake Perspective.”

Neil Hamilton, director of the Drake Ag Law Center and a long-time Leopold Center advisory board member, was the chief organizer for the event, along with Matt Russell, the law center’s chief organizer, and Matt Rasmussen, interim dean for the College of Arts and Sciences at Drake and current Summerville, interim dean for the College of Arts and Sciences at Drake and current Summerville, interim dean for the College of Arts and Sciences at Drake.

Topics in their panel discussions included:

• Key recent international developments (the Papal encyclical Laudato Si, the U.N. Paris Agreements and the USDA Report on Climate Change, Global Food Security, and U.S. Food Supply)
• Iowa farmers and climate change
• What are the educational and organizing opportunities in Iowa and how can Drake contribute?

Jerry Hatfield, director of the USDA National Lab for Agriculture and the Environment, had served on the USDA report committee, and his message was that many agricultural regions will decline in both the crop and livestock sectors, and farmers cannot afford to continue to use the same practices going forward. He promoted a plan for a Climate Smart Agriculture that emphasized building up soil organic matter. That sort of resilience could prove to be the best answer to the ills of climate change, according to his observations. (See www.usda.gov/documents/climate-smart-factsheet.pdf)

Several speakers noted that always aiming for the largest yield was not going to continue to work in a climate-challenged world. Both farmers and agribusinesses will need to change their approaches to adapt to uncertain weather and rising numbers and varieties of pests and diseases. In the past, science has helped agriculture circumvent varieties of pests and diseases. In the past, science has helped agriculture circumvent uncertainties, but to do that successfully, they will need markets ready to distribute the new and different cropping choices.

Better education for landowners, renters, and producers will be critical according to several speakers. Whether that education and training comes from coop and industry representatives, government agencies, neighbors, or Extension staffs, it will have to emphasize that soil is a precious and highly vulnerable resource and enough has been squandered already. Neil Hamilton stressed that “we have to do away with the concept of ‘tolerable’ soil loss.” Financial resources must be part of the equation for dealing with climate change, and it will have to be a mix of public-private partnerships different than ones that have been used in the past. Wolf noted, “We’re not going to be able to cost share our way to a successful nutrient reduction strategy.”

Kling honored in ISU Economics Department

ISU President Steven Leath has named Catherine Kling to the President’s Chair in Environmental Economics for her exemplary performance and contributions to natural resources and environmental economics. She was honored April 15 at a medallion ceremony during the ISU Foundation Governors luncheon.

Kling is currently serving on the Leopold Center Advisory Board. She is a Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences, professor of economics and director of the Center for Agricultural and Rural Development. Last year, she became Iowa State’s first female faculty member to be elected to the National Academy of Sciences.

The President’s Chair in Environmental Economics was established with support from the Howard T. Lanan and Evelyn M. Lanan Endowment for Excellence. Howard Lanan was a 1938 Iowa State graduate in agriculture; the Lanans farmed for more than 60 years in Illinois.
Highlight Events

More events on the website: www.leopold.iastate.edu/events/list

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

Field Days!

Practical Farmers of Iowa field days are always educational and fun. Visit their website to download their Field Day Guide booklet and plan to attend a field day on a topic of your interest. http://www.practicalfarmers.org/news-events/events/field-days/

The Iowa State University Research and Demonstration Farms annual field days begin on June 21 at several of the farms across Iowa. Visit the website details on all of their field day events: http://farms.ag.iastate.edu/research-farms-field-days/2016

Iowa Learning Farms is hosting a number of field days this summer. Visit their web page for event locations and details: http://www.extension.iastate.edu/ilf/page/events

June 23-24
Quad Cities Pollinator Conference, Davenport

The Leopold Center is one of the sponsors of this conference, in its second year, at the River Center in downtown Davenport. The conference will feature speakers on pollinator issues, and tours of successful pollinator habitat projects in the Quad Cities area. Visit the website for details: http://nahantmarsh.org/qcpollinatorconference/

July 15-17
Seed Savers Exchange Summer Conference and Campout, Decorah

Register now for this annual summer event that brings leaders in the seed and garden movement together to share their knowledge on seed saving, gardening, sustainable ag, healthy food, and preserving biodiversity. Visit the website for event details and registration information: www.seedsavers.org/conference

Aug. 3-4
National Strip-Till Conference, Bloomington-Normal, IL

The third annual National Strip-Till Conference will feature experts across the Midwest who have adopted this conservation practice. Hear from Iowans who are speaking at the conference including Eagle Grove farmer Tim Smith, and plant physiologist Jerry Hatfield, who is the Laboratory Director at the USDA-National Laboratory for Agriculture and the Environment, Ames.