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SOIL Conference salutes past and future

By MARY ADAMS, outreach and policy coordinator

It was like seeing the “hit parade” of the most prominent figures in Iowa conservation and environmental circles over the last 30 years. More than 40 speakers shared their thoughts and recommendations on Iowa’s soil and water conservation policies at the Sustaining Our Iowa Land (SOIL) conference held at Drake University’s Olmstead Center in Des Moines, Nov. 19-20. More than 175 attendees included farmers, landowners, conservationists and environmentalists—all with a vested interest in upgrading Iowa’s soil and water quality.

The meeting was organized by the Drake University Agricultural Law Center with support from a competitive grant provided by the Leopold Center’s Policy Initiative. Neil Hamilton, a long-time Leopold Center advisory board member, was the guiding force behind the conference. He said, “Iowa has a long history of national leadership on soil conservation and stewardship. But there is growing concern our commitment to protecting has soil and water resources has waned. Our goal is to help focus our efforts and consider how well our laws are working to support conservation.”

Speakers from every major government and private conservation entity took to

Iowa Organic Conference keeps growing

The 15th annual Iowa Organic Conference was held Nov. 22-23 at the University of Iowa (UI), Iowa City, as a joint effort between Iowa State University and the UI Office of Sustainability. The 327 participants, from five states, shared tips for transitioning into organic production and methods to enhance organic operations.

With worldwide interest in monarch butterflies and pollinators this year, the conference theme was “Celebrating the Biodiversity of Organic Farming: People, Animals, Pollinators and Plants” to highlight how organic practices are critical for preserving pollinator habitat and reducing impacts from pesticides.

“We were extremely pleased with the attendance and participation,” said Kathleen Delate, ISU organic specialist. “There was excellent interaction between speakers, attendees and the 53 exhibitors at this year’s conference. Everyone came away with new ideas and enthusiasm.”

Delate organizes the conference each year with a 13-member committee consisting of producers, consumers, and university and agency representatives.

A Local Foods Expo kicked off the conference on Sunday, bringing together producers and buyers of local and organic products, including Lucky’s Market, Whole Foods Market, and Hoq restaurant in Des Moines. The Expo was sponsored by the ISU Extension and Outreach Local Foods Team, the Leopold Center for Sustainable Agriculture, and Iowa Valley Resource Conservation and Development.

Sunday’s keynote speaker was Sarah Waring, with the Center for an Agricultural Economy, who inspired

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Summaries

Easy-to-read summaries are available on the website for these recently completed projects funded by Leopold Center Initiatives through competitive grants.

- Impacts of conventional and diversified rotation systems on crop yields, profitability, soil functions and environmental quality: Stage II
- Small-farm business development incubator for refugee farmers
- The complex role of tall fescue in grassland ecology
- A decision-making tool for the University of Iowa Biomass Partnership Project
- Increasing the number of herbaceous species appropriate for restoration of nutrient capture by forest remnants in agricultural landscapes
- Integration of water, nutrient, and carbon cycling under diverse annual perennial plant community systems in agricultural landscapes
- Investigation of bacteria transport and resistance mechanisms and implications for water quality from confinement swine and beef grazing production systems in Iowa
- Performance of cropping systems designed to reduce nitrate leaching into shallow municipal well aquifers
- Reducing local regulatory barriers to local foods: The “Municipal Zoning for Local Foods in Iowa” guidebook
- Simple and fast detection of E. coli in agricultural water sources and runoff
- Using spatially explicit supply/demand and local participants’ perspectives to integrate urban agriculture with community planning

WFAN Annual Conference

The annual conference for Women, Food and Agriculture Network (WFAN) was held in Davenport, Iowa, Nov. 6-7, with 180 attending. One of the most popular workshops at the conference was Ecofeminist Activism. Workshop co-leader Kari Carney leads an activity for attendees as they learned about the history of ecofeminist agriculture and worked on a plan for future collaboration. [photo courtesy Leigh Adcock, WFAN]
Is absentee farmland ownership a bad thing?

Absentee farmland ownership can be a touchy subject. The issue has been in the public eye lately, especially with news of the large-scale purchase of 22,300 acres of Illinois farmland by the real estate investment trust Farmland Partners, Inc. Other investment-type entities also have expressed interest in acquiring farmland, in a time when returns are low on many other types of investments. Whether this is a long-term trend or just a short-term flurry remains to be seen.

The traditional, historical opinion has been that both agriculture and rural communities are better off when land is directly owned by active farmers or others living close to the land. But the structure of agriculture has changed. Farmland acquisition has been consolidated under fewer farmers, either through direct and indirect ownership or through leases with non-farmer landowners. Farmers now “commute” many miles to farmland distant from their homestead. Nonetheless, the prevailing perspective on the value of resident owners persists and we place a high value on the intimate knowledge of place and keeping land ownership local.

In reality, there are many types of landowners. I assembled this list, but I realize that it may not be complete and that an owner can be classified in categories that overlap. My owner list includes: investment funds and trusts, nonprofit and charitable organizations, government entities, corporate entities, active farmers, retired farmers, family inheritors, and wealthy individuals.

Although land purchases by investment funds like Farmland Partners, Inc. have been viewed by some as a cause for concern, this type of land ownership currently constitutes less than one percent of farmland ownership. Like the recent Illinois purchase, investment group involvement looks and sounds large. We assume it predominates in the marketplace, but the vast majority of land is still owned by farmers and their descendants. Most farmland put up for sale in recent years was purchased by active farmers. We will have to see if this trend of investment firm interest continues as commodity and land prices have been declining.

In spite of the existing farmland ownership structure, the notion persists that future ownership patterns could be jeopardized. Many agricultural states have corporate farming restrictions in place although some have been invalidated by the courts. Anyone with knowledge of history recognizes the profound social effects that enclosure movements have had upon agriculture in historical England and other places around the world.

Farmland, as we all know, is the single largest cost item in farming and access to affordable land is a major impediment for eager beginning farmers. Many believe that “outside” ownership constitutes unfair competition which will inflate the price of land beyond what can be paid by farm production income. Farmers who farm on urban fringes are very familiar with this kind of land price inflation. Concern also is being expressed because shifting to some new kinds of ownership may lead to land being taken off the property tax rolls.

There also is a worry that both short- and long-term management of land suffers under the absentee land ownership/tenant relationship. This is especially critical with conservation practices that may take many years to yield improvement and pay off—and at whose expense? However, absentee landowners also can serve as a source of capital and financing for farmers, especially for those with limited resources who are unable to own land directly.

The fact is that diverse landownership still predominates on the agricultural landscape. A review of any plat map typically shows many owners and many parcels...

The fact is that diverse landownership still predominates on the agricultural landscape. A review of any plat map typically shows many owners and many parcels, although I must admit that for farmland with which I am most familiar, ownership patterns have narrowed in recent years.

So, I end where I began, with many questions about absentee landowners. They can pose social and environmental problems or offer a benefit to keep agriculture solvent and diverse. It depends, like any human endeavor, on the care and sincerity with which the owner and the tenant both manage and care for the land. Overall, it is difficult to generalize other than to say that for society as a whole it is best to have policies in place which promote sustainable practices regardless of who owns the land.
Tom and Irene Frantzen have been running their family farm for over 30 years and their philosophy hasn’t changed since day one: to be good stewards, to respect and care for the land and its people.

The Frantzens have been actively involved in “establishing and nurturing niche markets and alternative productions,” and they are happy to share their knowledge and experience of organically farming corn and soybeans and raising hogs.

The Frantzens, from New Hampton, began farming in 1976, and in the late ’90s they began the transition to organic. Their farm was certified organic in 2001.

The couple has devoted their life to ensuring their farmland and hog operation are productive and sustainable. They changed from the traditional corn-soybean system to a longer crop rotation, adding alfalfa and small grains to increase soil health. They also converted their hog operation from a traditional slat-floor, liquid manure system, to a deep-bedded, hoop house system. Now the manure is mixed with straw bedding, which is then used as a slow release fertilizer on their crop fields.

Leaders in innovation

The Frantzens have been conducting trials in their swine operation since 2012. “The first trial was on parasites, the second on alternative diets and the third was on the use of vinegar,” says Irene.

They are beginning a new round of research with small grain diets. “The purpose behind doing this trial is to examine the viability of corn-free pork in niche markets,” states Irene. “Small farms need to be able to successfully produce niche livestock products.”

The Frantzens are leaders in organic hog production, helping to start the organic pork program at Organic Valley, the largest organic cooperative in the United States. They were among the first 10 farms in the country to send hogs to Niman Ranch, a California-based meat company specializing in sustainable, humanely treated animals.

Nomination by researcher

Iowa State University Extension organic specialist Kathleen Delate nominated the Frantzens for the Spencer Award. Delate first saw Tom give a presentation at a Midwest Organic and Sustainable Education Services (MOSES) conference, where he talked about his experience as an organic farmer. Delate then asked the couple to participate in a study she was conducting on organic fertilization. The Frantzens agreed enthusiastically and did their part as professionally and precisely as any scientist would.

Since then, Delate has had Tom speak to her sustainable agriculture students at Iowa State, who enjoy him and his presentations.

Delate said in her nomination that one of their contributions to sustainable agriculture is their willingness to share. “They have had countless visitors to their farm—representing all but one continent—sharing their expertise from many years of on-farm research for both crops and livestock. They continue to work with local schools and FFA chapters, inviting classes to their farm to learn first-hand how farming can be profitable and fun. They continue to offer presentations at numerous venues, including Practical Farmers of Iowa, MOSES, Iowa Organic Conference and many others.”

The Frantzens have committed to leaving their land to PFI in their will, which ensures the land will continue be farmed the way the Frantzens intended, to be sustainable for generations to come.

Spencer Ideal

The Spencer Award was created by the children of Norman and Margaretha Spencer “to recognize significant contributions to the advancement of ecological and economic practices that will make agriculture sustainable, and the family farm secure for the future.”

Irene says, “Like the Spencer family, we truly believe that while on this earth, we will do what we can to leave it a better place for generations to come. Our farm motto is, ‘I shall see the goodness of the Lord in the Land of the Living’ [Psalms 27:13]. These words have been our inspiration to respect and care for the land and its people. We are humbled and thank the Spencer family and the Leopold Center for Sustainable Agriculture for honoring us with this award.”
Rethinking Soil, Economics and Health

All natural resources, except only subterranean minerals, are soil or derivatives of soil. Farms, ranges, crops and livestock, forests, irrigation water, and even water power resolve themselves into questions of soil. Soil is therefore the basic natural resource.

It follows that the destruction of soil is the most fundamental kind of economic loss the human race can suffer. With enough time and money, a neglected farm can be put back on its feet—if the soil is still there. With enough patience and scientific knowledge, an overgrazed range can be restored—if the soil is still there. By expensive replanting and with a generation or two of waiting, a ruined forest can again be made productive—if the soil is still there. With infinitely expensive works, a ruined watershed may again fill our ditches or turn our mills—if the soil is still there. But if the soil is gone, the loss is absolute and irrevocable. (Emphasis mine)

Aldo Leopold

A s 2015, the International Year of Soils, comes to a close, numerous organizations, including the Soil Science Society of America, have responded to this declaration by putting more emphasis on soil health than has ever been part of our international conversations. Still, we have much more to do. Aldo Leopold already understood, almost a hundred years ago, that soil is, in many respects, a non-renewable resource. Once soil is “gone” its loss is “absolute and irrevocable.” He also understood that such soil destruction is “the most fundamental kind of economic loss which the human race can suffer.” We now also know from the report of Rick Cruse’s research, highlighted in the Fall 2015 Leopold Letter, that such economic loss is being reconfirmed in Iowa today! The “average loss of 6.8 inches of topsoil due to erosion in Iowa since 1850, now causes an average of 10 bushels per acre yield loss.”

There are other initiatives taking place with regard to soil that are more hopeful and that deserve our attention now and in the decades ahead. First, Cornell University has produced a manual which clearly demonstrates that soil health is a scientifically verifiable phenomenon, and therefore enables us to learn how to manage and measure soil health.

Second, researchers are paying much more attention to the microbiome as it relates to both soil health and human health. In this regard, a new book by David Montgomery and Anne Bikle, The Hidden Half of Nature, is exceptionally inspiring. They focused on restoring the soil health in their own Seattle, Wash., garden, where the soil had been seriously degraded and depleted. Montgomery, a professional geologist, and Bikle, a biologist, environmentalist and health professional, learned that the key to restoring soil health lay in a part of nature that we have largely ignored—the microbial life in the soil as well as in ourselves. They awakened us to this “hidden half of nature” from science and experience, which comprises “the microbial roots of life and health” in soil and in us. In the process they make an important contribution to insights that Sir Albert Howard discovered in his own research farm in India, which led him to believe that the “N-P-K mentality” (or our modern input-dependent commodity agriculture) was headed in the wrong direction and that ultimately healthy soil, healthy plants, healthy animals, and healthy humans were all “one subject.” Howard realized that his “boldly revised point of view” needed to be “fully researched with entirely fresh investigations,” which we have largely failed to do.

However, Montgomery and Bikle, along with many other researchers they mention in their book, point out that perhaps even Leopold was too pessimistic, since if we truly honor Howard’s “law of return” and allow microbial life in the hidden half of nature to perform its life restoring work, soil health can be restored in a relatively short period of time!

Third, there are health care professionals who are realizing that our current health care system, which focuses on dealing with sickness and very little on how to keep people healthy, is also the wrong direction. In her book Farmacology, Daphne Miller, a family medicine practitioner and professor, reveals that she learned how to be a more effective health care professional from Integrated Pest Management (IPM) farmers. Instead of putting all of their resources into getting rid of pests after they emerged, IPM farmers learned how to manage their farms to prevent pests from emerging in the first place. Dr. Miller realized that managing health care in ways that keep people healthy, rather than waiting until they get sick, was similarly important. And she discovered just how much healthy soil “influenced the day-to-day health” of her patients.

At the end of their book, Montgomery and Bikle make an interesting observation that could inspire us to take on new challenges as we begin to take the microbiome more seriously in both agriculture and health care: “So where does this revolutionary new perspective leave us? Put bluntly, many practices at the heart of modern agriculture and medicine—two arenas of applied science critical to human health and well-being—are simply on the wrong path. We need to learn how to work with rather than against the microbial communities that underpin the health of plants and people.” (p. 255)

*References for this column appear on page 7.
CONSERVATION PRACTICES NECESSARY TO SAVE SOIL

SOIL CONFERENCE (continued from page 1)

the podium to share their views on Iowa’s successes and challenges. Just a few of those addressing the group:

- Jim Gulliford, Soil and Water Conservation Society, “Science needs to inform policy. Not all ‘popular science’ is science.”
- Craig Cox, Environmental Working Group, “Conservation Compliance worked from 1982-1987 to cut down on HEL totals. Can we expand it to cover much more of Iowa’s farmland?”
- Wayne Fredericks, Iowa Soybean Association, “How do we get farmers to understand that tillage is important to soil health?”
- Jerry Hatfield, USDA-ARS National Laboratory for Ag and the Environment—“Agriculture is multifunctional. How do we make it all work together at once?”
- Rick Cruse, ISU Agronomy, “Is five tons/acre soil erosion loss annually acceptable in Iowa?”

Leopold Center director Mark Rasmussen argued for the important role of livestock in sustaining a healthy agricultural environment. Their need for grassland forages and pasture could lead to reestablishment of these land-enhancing practices on Iowa farmland. But the livestock industry faces major legal, political and economic hurdles in order to achieve revitalization in the state.

Jason Weller, chief for the Natural Resources Conservation Service, gave a dynamic address on the problems and opportunities the NRCS faces nationwide. He stated that 78 percent of U.S. waterways are rated poor or fair for sustaining biological life, which presents a huge challenge. His agency sees more extensive collaboration with private landowners as key to addressing problems of resource scarcity and climate change.

Conference chair Neil Hamilton, director of the Drake Ag Law Center, summed up the key factors that can impact Iowa resource conservation work in the future:

- Cover crops
- Role of ag retailers
- Watershed projects
- Trade
- Women landowners and non-tenant landowners
- Enacting the 3/8 cent tax to fund conservation measures.

Some common themes emerged from the many presentations at the conference. Strategically-placed restored wetlands, buffers along all streams in the state, cover-crop plantings, grassed waterways, and various forms of conservation tillage were all cited as potential ways to stem some of the increasing problems due to soil erosion and water quality deterioration. At least one speaker cautioned that merely installing these practices wasn’t enough—they needed to be maintained as part of the permanent infrastructure of the state’s conservation programs. More rigorous enforcement of existing laws on conservation compliance could be a big help in turning the tide, according to some of the experts.

Agribusiness representatives talked about the value of engaging more of the private agribusiness entities such as crop advisors to encourage farmer adoption of conservation practices. A retired policy analyst suggested that churches should be encouraged to engage their congregants by talking about stewardship, and the need to act morally with regard to nature and the public good. Technology needs to play a role, too, as one speaker cited more sophisticated maps that will help farmers put practices in place when soil erosion is greatest.

Several Leopold Center advisory board members attended the conference—Doug Gronau, Aaron Heley-Lehman, and Gail Hickenbottom. Keith Summerville brought one of his Drake University environmental biology classes to hear Friday’s final session on ideas for change in Iowa’s environmental policy—as outlined by seven experts. Former Leopold Center director Dennis Keeney, who also made a keynote speech, received one of the “Steward of the Soil” awards presented on Thursday evening to those who had made “significant contributions to sustainability and soil conservation.”
The inaugural meeting of the Iowa Cheese and Dairy Guild was held in November, with Leopold Center Director Mark Rasmussen attending. The group is in the early stages of becoming a viable organization. The Guild hopes to provide resources and networking opportunities for Iowa cheesemakers and to expand artisanal cheese production and consumer demand for Iowa cheeses. The group should be functioning well by July 2016, when the American Cheese Society will hold its conference in Des Moines. For more information on the Iowa Cheese Guild and to get involved at this early stage, contact Stephanie Clark, Iowa State University associate professor in Food Science and Human Nutrition, 515-294-7346, email: milkmade@iastate.edu.

Sustainable Iowa Land Trust (SILT) celebrated its first year of operations at the end of December. The organization has received positive attention from landowners, young farmers, veterans, policymakers and community leaders. SILT seeks donations of land to go into the trust to preserve farmland for long-term, sustainable farming of healthy food. Leopold Center’s Distinguished Fellow Fred Kirschenmann serves on the SILT advisory board. For information about SILT, visit their website: www.silt.org.

Communications specialist (re)joins LCSA

The Leopold Center’s new communications specialist, Carol Brown already knows a lot about the Center, having worked part-time there from 2007-2010. She started her full-time duties in mid-November, replacing Laura Miller, who retired after 17 years with the Center.

Brown came from the Iowa Learning Farms and Water Rocks! programs, of which the Leopold Center is a partner. She started with these programs in 2007, when the Center’s former director Jerry DeWitt oversaw ILF as well. She manages outreach for the Leopold Center which includes news articles, newsletters, the website and social media.

“The research that the Center funds is so interesting,” said Brown. “I look forward to talking with the people who are seeking ways to keep Iowa as a leader in agriculture while protecting our natural resources. I’m excited about advancing the image of the Leopold Center and bringing a different perspective.”

Brown holds a graphic design degree from Iowa State University and has been in the communications field for 30 years. Prior to her employment at ISU, she was publications manager and communications director for Iowa Wesleyan College (now University) in Mt. Pleasant, for 14 years.

KIRSCHEMANN column references from page 5:
Aldo Leopold, “Erosion and Prosperity” ms. 1921. Included in The Essential Aldo Leopold Quotations and Commentaries, Edited by Curt Meine & Richard Knight. (pp. 76-77)
Daphne Miller, 2013. “The Surprising Healing Qualities...of Dirt,” YES Magazine

ANIMALS, PEOPLE, POLLINATORS AND PLANTS

ORGANIC CONFERENCE (continued from page 1)

attends with an account of the vibrant local foods system in Vermont, which is similar to Iowa in number of farmers.

Monday’s lunch was a gourmet meal highlighting local and organic produce, meats, and dairy products, prepared by award-winning UI Executive Chef Barry Greenberg and his team.

Monday’s keynote speakers were Klaas and Mary-Howell Martens, who grow and market over 10 varieties of organic grains in New York. They shared images of their diverse farm and emphasized how maintaining longer crop rotations with small grains and forage crops was key to the long-term sustainability of their farm.

In the “Improving Iowa’s Water Quality” session, Bill Stowe, with the Des Moines Water Works, discussed the impact for his clients of fertilizer runoff and leaching into Des Moines area water supplies. Cindy Cambardella, soil scientist at the USDA National Lab for Ag and the Environment, presented research data from an LCSA-funded project with Delate, showing a 50 percent reduction of nitrate loads under organic vs. conventional fields. Organic practices, such as longer crop rotations and slow-release manure-based fertilization, can help reduce nitrates entering Iowa water bodies.

New this year were farmer–mentor roundtables, with organic farmers and organic certification experts meeting one-on-one. The roundtables were sponsored by Blue River Organic Seed and organic farmer Roger Lansink, Odebolt, Iowa.

Next year’s conference will be Nov. 12-13 in Iowa City.
**Highlight Events**

**January 22-23**
The 30th annual Practical Farmers of Iowa Conference will be held in Ames at the Iowa State Center. The Leopold Center is a major sponsor of the event and will be exhibiting as well. For conference details, visit the website: www.practicalfarmers.org.

**February 2-3**
A new conference, Strategies for Building Healthy Soils, will be held at the Iowa State Center, Ames. The goal of the event is for attendees to increase their awareness and understanding of soil health through an excellent lineup of speakers. To see who is speaking and to register for the conference go to: http://register.extension.iastate.edu/soilhealth

**February 23**
The annual Legislative Breakfast hosted by the Leopold Center will be held in Des Moines at the Capitol Building.

**March 23-24**
2016 marks the 10th year for the Iowa Water Conference, which is reflected in the theme: “AtTENtion-EnlighTEN-InTENsify.” The Spencer Award will be presented at the conference. To register go to: http://www.aep.iastate.edu/iwc/

**April 5**
The Shivvers Memorial Lecture Series, coordinated by the Leopold Center, will be held at the ISU Memorial Union Sun Room at 7:00 p.m. This year, the event shifts from a traditional lecture to a panel of speakers. Iowa farmers Nathan Anderson, Cherokee; Mike DeCook, Lovilia; and Linda Harris, Hancock, will share their farming practices and discuss how these will affect their land for the long term.

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**More details, events**
Check Leopold Center Web calendar:
www.leopold.iastate.edu/news/calendar