

Letter

A NEWSLETTER OF THE LEOPOLD CENTER FOR SUSTAINABLE AGRICULTURE VOL. 11 NO.2 SUMMER 1999

Farming the Net to get the edge on profits

By E. Anne Larson
Communications Specialist



Net surfing isn't for nerds anymore—from Christmas shopping to communicating with relatives, the digital revolution has brought e-mail, the Internet, and online information into a majority of our homes and businesses. Agriculture has been ahead of the curve on many fronts, as farmers and agribusinesses learn how to turn technology to their advantage.

The latest in farming methods, market reports, weather forecasts, information exchange, and buying and selling of grain and livestock are some of the ways agriculture is putting the Internet to work. Agribusinesses are eager to learn how they can use the Internet to market their products directly to farmers. Farmers are finding ways to improve their bottom line by using the Internet and other technologies to gain immediate access to markets.

One farmer who has had his ear

"We like to tell the story of our producers. We sell Bob's chickens, Bill's turkeys, Bonnie's lambs and Howard's beef."

— Paul Heimel
organic meat buyer

See page 8 for story.

to the ground about technology for quite some time is Grant Mangold of Linn Grove, who since 1993 has published *@Innovator* in print form and now online in cooperation with *Successful Farming Online*. But technology isn't all about "bells and whistles;" profitability and sustainability are important factors in the use of technology.

As Mangold aptly writes in his online welcome, "[Technology] is about moving from precision farming to 'appropriate agriculture.' Many farmers will accomplish this with new tools and technologies, new farming strategies and enterprising structures. But for all who will survive and prosper, it will involve making the right decisions at the right time."

Several studies indicate that adoption of digital technologies may depend to some degree on the type

FARMING THE NET

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In 12th round of competition

Leopold Center awards \$404,000 to new projects, renews 29 others

By Jeri Neal
Research Coordinator

The Leopold Center for Sustainable Agriculture recently awarded \$956,000 in its 12th annual round of competitive grants for research, education and demonstration projects. Center Director Dennis Keeney and the Leopold Center Advisory Board approved funds for 19 new projects and 29 existing projects that were renewed for a second or third year. The funding begins July 1; annual awards range from \$3,385 to \$35,000.

The Center's competitive grants program gives Iowans who are associated with educational institutions and nonprofit organizations an opportunity to build partnerships in education, demonstration and research efforts that will help move the state toward a sustainable agricultural system. The 48 projects active in 1999-2000 will cover a wide range of topics including swine carcass composting, foxtail weed control, local food systems and organic soybeans in CRP land.

Since its inception in 1987, the Leopold Center has awarded more than \$9 million in 206 competitive grants throughout the state.

Active projects for 1999-2000 are reviewed in a special section of this newsletter (see pages A1-A8).

Leopold Center Advisory Board member **Wendy Wintersteen** is heading the search committee to recommend candidates to succeed Center director Dennis Keeney, who will retire early in 2000. Other advisory board members on the 11-member committee are **Mary Jane Olney, Jim Penney, Robert Sayre** and **Kurt Johnson**. Also representing the Center is research coordinator **Jeri Neal**. Nominations of director candidates or questions about the search process should be directed to Wintersteen at (515) 294-7801 or <x1agdir@exnet.iastate.edu>.

The Leopold Center reached more than **1,550 farmers, educators and community leaders at 12 regional events** during the first quarter of 1999. All events received partial funding from the Center's conference and workshop program. Participants learned about the Center and other sustainable agriculture projects that focused on local food systems, organic agriculture, integrated pest and nutrient management, value-added agriculture and grazing. One event was the popular Cornbelt Cow-Calf conference in Ottumwa. Producers suggested that the Center find new ways for them to get a larger portion of the consumer dollar, but wanted continued support of intensive grazing research.

A new statewide task force on local food systems appointed by Iowa Secretary of Agriculture Patty Judge has strong ties to the Leopold Center. Appointed to the 16-member group were: Advisory Board member **Neil Hamilton** from Drake University Law School; **Rich Pirog**, Center education coordinator; **Kamyar Enshayan**, a University of Northern Iowa assistant professor who manages a Center-funded project; and **Gary Huber**, of Practical Farmers of Iowa who oversees Field to Family, awarded a new Center grant (see insert). The task force chair reports to **Mary Jane Olney** at the Iowa Department of Agriculture and

Land Stewardship; Olney also is a Center advisory board member. The Task Force on Iowa Local Food Systems will suggest ways to boost sale and processing of Iowa-grown food.

Center director **Dennis Keeney** has been selected to speak at a national conference to celebrate the 50th anniversary of the publication of Aldo Leopold's *A Sand County Almanac*. The conference will be October 5-7 in Madison, Wisconsin, and is sponsored by the Wisconsin Academy of Sciences, Arts and Letters.

The **Leopold Center** is one of many voices being heard in the Conversations on Change program sponsored by the Council for Agricultural Science and Technology in Ames with support from

the W.K. Kellogg Foundation, the Farm Foundation and the U.S. Department of Agriculture. Incentive grants for additional work are funded by the W.K. Kellogg Foundation, the American Phytopathological Society, Entomological Society of America, Entomological Foundation and the Weed Science Society of America. More information is available on the program web site at <www.societies.org>.

The **Leopold Center** kept its spot as one of 1,400 organizations worldwide that are models for innovative environmental programs. To be included in Renew America's Environmental Success Index, the Center was evaluated on several criteria, and recommended by other environmental leaders. The Index is on the web at <www.crest.org/renew_america>.



LEOPOLD CENTER

The *Leopold Letter* is also available via World Wide Web:
URL: <http://www.leopold.iastate.edu>

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- Kurt Johnson***, member-at-large, farmer, Iowa Farm Bureau Federation, Audubon
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- Tom Fogarty**, University of Northern Iowa, Cedar Falls
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- Jim Penney***, Agribusiness Association of Iowa, Ames
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*Ex-officio members until June 30, 1999 (see pg. 5)

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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.

Editor: Laura Miller



Veteran. Any persons having inquiries concerning this may contact the Director of Affirmative Action, 318 Beardshear Hall, (515) 294-7612.

The fourth revolution in agriculture

The history of agriculture combines some major technological changes with a series of evolutionary changes. It is usually difficult to determine if agriculture is in a major shift or just slowly changing, but it seems to me that perhaps the past decade is seeing the beginning of agriculture's fourth major revolution.

As I see it, the first revolution was the cultivation of food, feed and fiber crops and the domestication of animals for meat and draft power. Eventually people grew more food than they needed and moved beyond subsistence agriculture. They began to specialize, moved off the land, and modern civilization began.

The second revolution occurred a few years ago with the application of fossil fuel-powered vehicles to till soil, harvest crops and substitute for human labor in many menial chores. It accelerated the migration of people away from the land as the need for labor declined and farming became less profitable.

The third revolution is the petrochemical revolution. Agriculture embraced pest control by chemicals as a replacement for cultural approaches and hand labor. Far more capital was required to farm at a level needed to provide a living. The expanded use of manufactured inputs increased the farmer's reliance on technology and external markets.

Accompanying the petrochemical revolution were advances in the knowledge and techniques of plant breeding. Crops can now withstand some of our most potent herbicides, even resist certain insects, but these advances have not helped farmers grow better crops or see higher profits. Application of precision agriculture technologies and continued improvement of crop yield through plant breeding and cultural methods have made farming more efficient than ever.

The fourth revolution centers on plant genetics. It is fueled by spectacular technical advances in genetic engineering—the insertion of genes (often from other species) to change the characteristics of the plant—in ways that would not be feasible with classical plant breeding. Genetic engineering has produced only a few commercial products but promises crops with special characteristics not thought of just a few years ago.

Genetic engineering also has produced much controversy. There has been a major consolidation of life science and agrochemical companies in what many see as a dangerous concentration of power. It has given rise to grave concerns about the suitability of U.S.-produced feed grains by people in many European countries, and threatened the exports of our grains.

The products of genetic engineering will challenge sustainable agriculture in the first decades of the next century. Ecological effects from gene escapes, harm to nonpest species such as Bt corn pollen's lethal effect on the monarch butterfly, overuse of herbicides, and formation of insect and weed resistance are but a few of the possible dangers of this technology. In the rush to create profits, most life science companies are choosing to ignore the natural resource consequences of their products. Government intervention and regulation appear weak at best, and only one with a perfect view of the future knows how—and if—intervention in the product development and release treadmill is even necessary. The universities are not yet stepping in with creative ways to evaluate the ecological and environmental consequences of the new wave of engineered crops. Public funding is essential to provide unbiased answers to questions posed by the public.

However, there are many possible benefits to genetic-engineered crops.

Done properly, agriculture could see a revolution producing healthier and more nutritious crops, grown with far less chemical inputs than before. New crops more fitting to the environment are possible. But industry giants must develop them because universities have given up too much ground to be leaders in biotechnology. This is where sustainable agriculture must enter the discussion. We must insist that the profit motive be set aside in joint efforts to produce beneficial crops.

Can the genetic revolution turn agriculture around? It is worth a try. But only if sustainable agriculture enters the debate in a positive way will there be a chance for a good ending to this revolution.

Aldo Leopold spoke of the progress of the science of agriculture:

We end, I think, at what might be called the standard paradox of the twentieth century; our tools are better than we are, and grow faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in history; to live on a piece of land without spoiling it.

As guardians of Leopold's land ethic, we must consider the land, its resources and its people as we evaluate and try to influence the direction of the genetic engineering tools that science has brought to agriculture.



Dennis R. Keeney



Leopold Center editor Mary Adams (center) and graphic designers Beth Hagemeister (left) and Julie Mangels, Ankeny, received numerous awards for the Center's 1997-98 annual report.

Center snags communications kudos

Communicating with the public is part of the Leopold Center's mission and winning national recognition for its efforts is just frosting on the cake.

In April the Center's 1997-98 *Annual Report*, written by Center editor Mary Adams and designed by Juls Design, Ankeny, garnered a national merit (second place) award in its category in the National Agricultural Marketing Association's "Best of NAMA" program in Atlanta. More than 1,500 entries were judged in the contest, which started with five regional competitions involving agricultural organizations, corporations and ad agencies. The report also was recognized in the Northeast Iowa Women in Communications (WIC) awards event in April where Julie Mangels of Juls Design received an "overall achievement" award for her work.

In June, the annual report will

receive the top "gold" award in its category from the Agricultural Communicators in Education (ACE) contest during its international conference in Knoxville, Tennessee. Mangels will receive an "Outstanding Professional Skill" award, recognizing her work as best of all entries in the one- to three-color print media category.

In addition, Leopold Center editor Laura Miller will receive ACE's prestigious "Pioneer" award, which recognizes communicators who demonstrate exceptional leadership and technical skills, and make significant contributions to ACE. Miller will be a co-recipient of the honor along with Tom Jirik from North Dakota State University. Miller becomes the first Iowan to win the honor since 1985. ACE membership comes primarily from land grant universities like Iowa State University.

Handbook helps get the bugs out

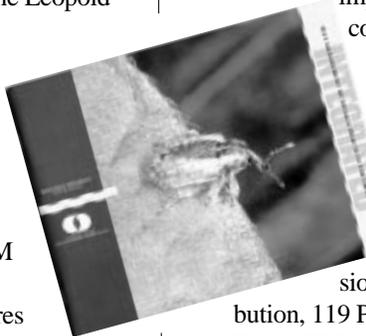
Integrated Pest Management of Alfalfa Insects in the Upper Midwest, a publication based on the work of the Leopold Center's Integrated Pest Management (IPM) issue team, is now available. The full-color, 8-1/2 x 11 in. 48-page manual was written, edited and produced jointly by the Center, members of the IPM issue team and ISU Extension. The publication features numerous color photographs taken by Marlin Rice of the ISU entomology faculty.

A section on "Biology and Manage-

ment of Alfalfa Insects" describes the identification, management and crop importance of 11 common alfalfa pests.

Copies of *Integrated Pest Management of Alfalfa Insects in the Upper Midwest*, IPM-58, may be obtained from ISU Extension Publication Distribu-

tion, 119 Printing and Publications Bldg., ISU, Ames, IA 50011, (515) 294-5247. The cost is \$7.50, with no charge for postage and handling for copies mailed in Iowa.



Center Progress Report highlights research

The eighth annual Leopold Center *Progress Report* that summarizes 16 research projects completed in 1998 is now available. The 88-page illustrated book takes a look at Center-funded research efforts in four areas: agriculture and communities, agroecology and ecosystems, integrated pest management, livestock management, and soil and water quality.

Highlights encompass six integrated pest management projects aimed at managing insects, weeds and fungal diseases. The newest competitive grant category, agriculture and communities, includes a local food systems project and a look at what consumers might pay for pork produced under environmentally friendly conditions.

The report also shows the diversity of research funded by the Center. Projects range from a study of terracing systems in Pottawattamie County for wildlife habitat, to the use of herbs to promote growth and feed efficiency in hogs. Researchers looked at wages paid to farm employees, constructed wetlands, and manure application guidelines for nitrogen management in corn.

The 1999 *Progress Report* is available at no charge by request. Contact the Center by telephone, fax, or e-mail to receive a copy.

FOOTPRINTS

"One who observes the landscape from Highway 30 east or I-35 north sees a portrait that is bleak—sober in Leopold's terms—and has little diversity," Leopold Center director **Dennis Keeney** told an audience of high school juniors and seniors interested in conservation careers. "The rug needs reweaving with buffer strips, wetlands and habitat for wildlife." Keeney was the 1999 Earth Day speaker at Ellsworth Community College in Iowa Falls. The complete text, which quotes Aldo Leopold extensively, is on the Leopold Center's web site.

New members join Leopold Center advisory board

One of the state's top conservationists, a prominent northwest Iowa beef producer and a 10-year administrator of statewide agricultural programs have joined the Leopold Center Advisory Board. Each will serve a four-year term. They are:

- **Lyle Asell**, long-time assistant state conservationist for the Natural Resource Conservation Service (NRCS), appointed in April to succeed Don Paulin as the Iowa Department of Natural Resources (DNR) representative on the advisory board;
- **Connie Greig**, who owns and operates her family's Little Acorn Ranch in Estherville, appointed in April to succeed Sally Puttmann in representing Iowa's soil and water conservation districts; and
- **Mary Jane Olney**, administrative division director for the Iowa Department of Agriculture and Land Stewardship (IDALS), appointed in February to succeed Shirley Danskin-White as the IDALS representative.

Born and raised on a livestock/grain farm in southwest Iowa, Asell has worked with the NRCS in Iowa for 32 years. He has held positions of soil conservationist, district and area conservationist, biologist, and resource conservation and development coordinator, and in 1988 was appointed assistant state conservationist for water resources. Recently he was tapped by Iowa DNR director Paul Johnson to direct agricultural and environmental programs.

Asell is still part of a family corn-soybean operation in Mills and Pottawattamie counties, and has a small cattle operation in Chariton, where he lives with his wife. He is a board member of the Iowa Soil and Water Conservation Society and has a fish and wildlife biology degree from Iowa State University.

Greig also brings a rich agricultural background to the advisory board. With her son, Greig operates a corn-soybean farm, while her husband



Lyle Asell



Connie Greig



Mary Jane Olney

John, a former Iowa legislator, and their other son operate a 2,000-head feedlot. In 1998, the Greig family received a regional award for their environmental stewardship from the National Cattlemen's Beef Association. John and Connie also were recognized by ISU in 1992 when they were inducted into the Animal Science Hall of Fame, and in 1990 as members of the Iowa Cattlemen's Association Hall of Fame.

Connie Greig also has become active in animal health care issues on a national and international scale. She is a member of the National Research Council's animal drug committee, and has developed a management plan that emphasizes prevention and prudent use of antibiotics in her family's 200-head Simmental breed stock operation. She has an undergraduate degree in English education from the University of Iowa and has lived in Estherville all her life.

Olney is still active in her family's

grain farm, which has been in operation for more than a century in Calhoun County. Once a teacher in the Des Moines public schools, she has a wealth of experience with soil and water conservation district activities, strategic planning and program development, staff training, and policy analysis. She manages the \$30 million IDALS budget and is the department's liaison with various boards.

Born in Fort Dodge and raised in Des Moines, Olney now lives in West Des Moines with her husband. She has undergraduate and master's degrees from Drake University.

The advisory board has one position open—for a representative of Iowa's independent colleges and universities. Former board member Lenore Durkee recently retired at Grinnell College and has moved to the East Coast.

Advisory board changes approved

Effective July 1, 1999, the Leopold Center's Advisory Board will have four more voting members. As a result of an amendment to Section 266.39 in the Code of Iowa 1999, signed by Governor Tom Vilsack on April 29, the four *ex officio* members added to the board in 1996 will now become full voting members of the board, to help ensure that the Center reaches on the best possible consensus on its proposed course of research and education programs.

Assuming voting member status will be Kurt Johnson, Audubon farmer, representing Iowa Farm Bureau Federation; Marvin Shirley, Minburn, Iowa Farmers Union; Paul Mugge, Practical Farmers of Iowa; and Jim Penney and Craig Struve, sharing an appointment representing the Agribusiness Association of Iowa.

Ex officio memberships were added to the advisory board to bolster farmer and agribusiness representation on the board in response to recommendations from a 1995 review of the Center's programs and procedures

Listening to the land's story

EDITOR'S NOTE: As part of the Leopold Center's conference and workshop program, this inspiring and gifted California farmer, photographer, author and lecturer discussed sustainable and community-based agriculture last spring at the University of Northern Iowa campus in Cedar Falls.

On Good Land: The Autobiography of an Urban Farm

Michael Ableman, Chronicle Books, San Francisco, 1998, 144 p.

On first appearance, Michael Ableman's book might seem typical of commercially slick offerings from major publishers that soothe the eye regardless of content. However, Ableman's *On Good Land* is a work that stands on its own as a monument, a testimony to an age when the urban landscape has finally buttressed itself against the proud and shrinking agricultural domain that once marked this country.

Ableman is a Renaissance man. Lecturing circuit aside, he has not shunned the requisite of all Renaissance men—to roll up one's sleeves and immerse oneself in an environment for the sake of enlightenment and education. Other self-purported experts could do well to follow his lead.

On Good Land simply charts that full immersion into Fairview Gardens, a 103-year-old farm near Santa

Barbara. Here is where Ableman grows nearly 100 varieties of fruits and vegetables in a pocket surrounded by suburbia. The book jacket alerts the reader that "this is the story of Fairview's struggle for survival, and of the awakening of a community to the riches of a local farm."

Just as journalist-interviewer Studs Terkel attempted to capture the complete picture of any given historical period, so does Ableman pursue his subject. The reader meets inhabitants of Fairview Gardens who have witnessed the bittersweet changes since 1954. There are farmers, laborers, customers and people of all ages and socio-economic backgrounds within this community. Ableman doesn't name Fairview's enemies, instead casting blame only in subtle ways. For sure the various conflicts are real (issues of rezoning and pesticide use) but addressed without a vindictive sense of wrong versus right.

Like his first book, *From the Good Earth: A Celebration of Growing Food Around the World* (Harry Abrams 1993), Ableman reveals his philosophy in sumptuous, crystal-clear photographs. There also are random pages of "tips" for expert and layperson alike. Ableman's means of expressing his views can be categorized as gentle and objective, however, he places the onus on the reader to extrapolate any morals here. The overriding principle put forth



Author and farmer Michael Ableman

is "sustainable agriculture," although his presentation of a microcosm speaks for so much more.

On Good Land, hopefully, will not one day be seen as a fleeting portrait of a diminishing agricultural community, but rather as a model that laid the groundwork for uniting the urban and rural landscapes without unjust compromise to either structure. Never pedantic and yet verging on the poetic, *On Good Land* stands alone as a book that everyone can enjoy regardless of urban or rural background.

— John Lane, Secretary

Don't forget people in sustainable agriculture

Facilitating Sustainable Agriculture: Participatory Learning and Adaptive Management in Times of Environmental Uncertainty

Niels Röling and M.A.E. Wagemakers, Cambridge University Press, Cambridge, 1998, 318 p.

This book is not just another sustainable agriculture book that is hung up on agriculture's changing structure, or its dependence on fossil fuels, chemicals and pesticides. It probes, tries to answer, probes again, and often admits lack of

conclusions because sustainable agriculture is, after all, about people. People defy compartmentalization, and perhaps so does their environment.

The book's basic proposition is that the environmental "crisis," while real, is a crisis that has to be understood as a part of the human experience. Environmental management has traditionally been regarded primarily as a technical task, whereas the causal agents of environmental damage are people. Until human behavior is brought into the equation, solutions will not be forthcoming.

The middle section contains 12 case studies of problems and solutions from many countries including Switzerland, Greece, Netherlands, Germany, Indonesia, Australia and the United States. The book is heavily influenced by the experiences with Landcare, the Australian approach to learning and facilitation of ecologically sound agriculture practices. It is a strong and powerful book, and should be regarded as a turning point in the advancement of sustainable agriculture in today's world.

— Dennis Keeney, Center Director

Swine System Options conference draws 350

One swine producer said it best: "People vote with their feet. You can tell (from the crowd) how important swine alternatives are!"

More than 350 swine producers, researchers, educators and students attended the February 17 Swine System Options conference coordinated by the Leopold Center and nine partners concerned about Iowa's swine industry. Swine producers from Iowa, Minnesota, Illinois, Missouri and South Dakota participated in a program that featured 27 producers sharing their experiences on production, management, and marketing strategies with alternative swine systems. Results from Center-sponsored research comparing performance of swine in side-by-side confinement and hooped structure buildings also were presented.

Evaluation feedback indicated that most swine producers in attendance left with a better understanding of the different swine system options available. Specific ideas that producers said they will use included information on how to use hoop structures, ideas for direct marketing of pork to get more of the consumer dollar, and techniques to better compost the bedding/manure pack.

Swine producers appreciated the opportunity to network and share their stories of how to remain competitive in the swine industry. "I drove 500 miles to get here today and it was worth it!" one producer wrote. They also appreciated that much of the break and lunch food, including the pork, came from Iowa producers. Said one participant: "Serving local and Iowa-grown foods at these events is a win-win for the state and for producers."

Cosponsors included ISU Extension, ISU Pork Industry Center, Iowa Pork Producers Association, Iowa Farm Bureau, Practical Farmers of Iowa, ISU Beginning



Above: Producer Vic Madsen (left) and Neil Hamilton, advisory board member active in local food systems, share their experiences during a breakout session.



Left: Dave Struthers, Collins, offers an overview—and hope for—the pork industry in Iowa.

Farmer Center, ISU Extension Sustainable Agriculture Program, ISU College of Agriculture and ISU Research and Demonstration Farms. Plans are to host another Swine System Options conference in 2001 or 2002.

Proceedings from conference available soon



"Someone asked in this morning's session, 'How can I become a part of the food chain?', which was something I had never considered. I have always looked at raising hogs as an independent producer and doing everything my way. I am finding that is probably not a very healthy attitude.

"As an independent producer, I thought I could buck the trend, but I am seeing in my county some changing trends in the hog industry. It has humbled me to say, 'How can I maintain as much independence yet stay competitive in the hog industry?' I don't think I can do it alone. I must tie into the strengths of others to remain competitive."

These words come from Gary Johnson, who pasture farrows pigs in Henry County, Illinois. Johnson shared

some of the lessons he's learned with other producers who attended the 1999 Swine System Options conference at Iowa State University.

The Leopold Center is publishing a complete proceedings report from the February conference. The report will have information presented by four general session speakers and summaries of all 16 break-out sessions, which includes several panels of pork producers who use hoops or other alternative systems.

All registered conference participants will receive a copy of the *1999 Swine System Options Conference Proceedings* by mail. After July, additional copies can be ordered from the Center, (515) 294-3711.

Future pork: Organics may hold key

By Laura Miller
Editor

Natural foods, one of the newest and fastest growing sectors in the food industry, could be the answer for struggling Iowa pork producers.

So advised Paul Heimel, a third-generation, 30-year veteran meat producer, buyer and broker. As director of meat and seafood operations for the nation's largest natural foods cooperative, Wedge Coop of Minneapolis, Heimel spoke at a sustainable agriculture seminar sponsored by the Leopold Center Iowa State University this spring. He now coordinates the certified organic meat program at CROPP-Organic Valley of Lafarge, Wisconsin.

Heimel said the emergence of products with the "natural" or "organic" label is big news in the food industry. Products with this label comprise 28 percent of the overall market. Considering the potential, especially in meat products, Heimel sees big growth ahead for "natural" and "organic" foods, now estimated at

\$4.5 billion in sales.

"Producers ask me how they can gain a market niche and the answer is simple," he told producers who watched the seminar from five Iowa Communications Network sites. "It lies in their ability to get involved in

"The potential is limited only by the size of our store and the area we have dedicated to natural and organic meat products."

—Paul Heimel, organic meat buyer

organic food markets."

Heimel suggested that small producers start by joining an organized cooperative, or align themselves with producers who have similar interests. Cooperatives help producers know what's required for their operation to be certified as "organic" by an independent agency, and help them market their hogs as such.

While pork prices were hovering around \$12-\$15 per hundredweight for conventionally-raised hogs last spring,

Heimel said he was paying \$70 live weight for "naturally-grown" pork. Free-range, antibiotic-free poultry can fetch a solid 20 to 30 percent premium.

For any meat product to be labeled "natural" at the Wedge store, it must be from livestock raised in an open range without antibiotics or hormones and fed a balanced diet that does not contain animal byproducts. Several farmers that Heimel buys from also are certified organic producers, which means that crops fed to animals are grown without chemicals. Heimel visits each

farm or ranch to see that animals receive humane treatment, and inspects processing facilities for sanitation techniques that exceed USDA requirements.

Heimel has seen first-hand the consumer demand for meat labeled "natural" and "organic." He joined Wedge in 1997, when the vegetarian cooperative decided to take a big step: add a meat and seafood department. Their 4,500 members were divided, but

ORGANIC MEAT PRODUCTS

(continued on next page)

Center helps continue long-term organics study

While "organic" and "natural" products edge their way onto supermarket shelves and interest in organic agriculture grows by leaps and bounds, the Leopold Center quietly supports one of the state's longest running organic research demonstration plots.

The plots are at Iowa State University's Northeast Iowa research farm near Nashua in Floyd County. Chemicals haven't been used on these plots for at least 12 years. They were set up in 1978 as control plots for a project designed to show the advantages of chemical fertilizers in row-crop production. Researchers have used oat and alfalfa rotations with corn, and added manure to keep the organic plots productive. The site has other plots with the traditional corn-soybean rotation and continuous corn

production, both with chemical inputs.

"We get excellent information from these organic plots that can be used as a comparison for a number of things," says Mike Duffy, associate director of the Leopold Center. "Our results are replicated over time, and it's helpful to see the long-term effects of organic production on these plots."

After 21 years, however, the organic plots are getting a new look.

"We'll be adding soybeans to the organic rotation for the first time," Duffy said. "Organic soybeans have the biggest premiums, and we feel the market may be going in that direction."

Years of collecting comparison data show that organic rotation without premiums has never outperformed the traditional corn-soybean plots for return to management, he said.

However, when you consider the amount of energy used, the organic plots win hands-down, Duffy added.

"An organic rotation uses a lot less energy, even with additional trips in the field to cultivate," he explained. "Nitrogen comes from fossil fuels, so you need to consider that in the equation. In terms of gallons of diesel fuel equivalent energy, continuous corn uses 66 gallons per acre, corn-soybean 36 gallons, and the organic rotation, only 6 gallons."

Duffy works with Ken Pecinovsky, Northeast Research Farm manager, and agronomist Matt Liebman to design the rotations. The Center's major focus in organic agriculture research is directed by ISU professor Kathleen Delate at the Neely-Kinyon Research Farm.

ORGANIC MEAT PRODUCTS

(continued from page 8)

the coop has since added 2,000 people to its membership, and sales to nonmembers have grown from 44 to 52 percent of total sales.

"The potential is limited only by the size of our store and the area we have dedicated to natural and organic meat products," he said. The meat department was designed to handle \$18,000 to \$20,000 in sales per week, a goal surpassed during the first year.

He works with 16 producers, all small family farmers, to provide poultry (42 percent of meat sales), beef (17 percent), pork (7 percent), lamb (2 percent), and buffalo (1 percent). Wedge Coop also offers seafood, which makes up 28 percent of total meat sales, and specialty items such as rabbit, venison, duck, and pheasant.

"We sold 1,000 turkeys last Thanksgiving at \$1.99 a pound and we ran out," he said.

Heimel believes this trend to organics has been fueled by industrial farming and multinational corporations.

"They've taken the pride and dignity out of the most honorable profession in the world," he said. "The only thing that can stand up to it is people and I see it happening in growing opposition to irradiation, genetically modified organisms (GMOs), super bugs that no one can get a handle on in our food due to antibiotics, growth stimulants and feed that contains animal byproducts."

People also like to connect their meat with the people who raise it. Fliers and posters in the Wedge meat department show the families in an operation, their philosophy and standards by which they operate.

"We like to tell the story of our producers. We sell Bob's chickens, Bill's turkeys, Bonnie's lambs, and Howard's beef," Heimel said.

He continues to be amazed by the growth. Heimel states, "The changes I've seen in the last seven years I don't think my grandfather or father saw in the 50 years they were in the meat business."

Center's summer intern appreciates Iowa forests

One wouldn't think that Iowa has much to offer in forest management, but Iowa is exactly where the Leopold Center's summer intern wants to be.

John Tyndall, an Iowa State University graduate student in forest economics, will be working on various projects with Leopold Center education coordinator Rich Pirog this summer. He returns to the Midwest after a two-year absence, one of which was spent studying forest ecosystems and socioeconomic models at the University of British Columbia in Vancouver.

"After getting my master's degree in forest management at Iowa State University in 1996, I thought it was time to go where there were lots of forests," Tyndall explained. "I started a Ph.D. program in British Columbia, but after a year I came to the conclusion that the real excitement in natural resource management was right here in Iowa."

He said he's pleased to have experience in two very different



John Tyndall

situations: forests of the Northwest and Iowa forests within an agricultural landscape.

"I truly feel that the social, economic and ecological complexities of natural resources within the uniqueness inherent in agriculture are infinitely interesting," he said. While at ISU, he helped conduct socioeconomic research on Iowa's hardwood wood product industry. Currently, he is involved in agroforestry research that can help improve the sustainability of livestock farming.

Tyndall said he was attracted to the Leopold Center internship because he appreciated the buffer strip research the Center has supported as part of its agroforestry initiative.

EXPO '99 highlights Iowa agriculture

The future of Iowa agriculture is happening today, according to a number of Iowa agripreneurs who will share their ideas and experiences at EXPO '99 in Ames June 17. Iowa State University's Vision 2020 is joining forces with the Leopold Center, ISU Extension and Sustainable Agriculture Research and Education (SARE) to present the program, "EXPO 99: Creating a Thriving Agriculture."

The event will feature a panel headed by Iowa Secretary of Agriculture Patty Judge to discuss a vision for Iowa agriculture in the next century. Eighteen break-out sessions will focus on alternative farming techniques, organic mentoring, value-added

processing, marketing, and production of fruit, vegetables, pork, beef, poultry, dairy products and forage.

A \$10 registration fee includes an Iowa-grown lunch. For more information, contact Vision 2020 at (515) 294-2092, or visit the web site at <<http://www.iastate.edu/~vision2020>>.

NEWS & NOTES

In May, **Dennis Keeney** addressed a workshop in Maryland about using the Leopold Center as a model for a center that will coordinate multi-disciplinary research in agriculture, natural resources and the environment. The new center would be a joint project of the University of Maryland College of Agriculture and Natural Resources and the Maryland Agricultural Experiment Station.



In the realm of enhancing profitability for farmers, technologies that can minimize the middlemen in agricultural transactions may show promise, depending on whether these venues offer enough safeguards and advantages to the producer.

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and size of farming operation; they also show that adoption of these technologies is increasing at a good clip. A brief review of several studies of agriculture's use of technology shows some interesting consistencies and contrasts.

Computer ownership/use

For some time, surveys have shown farmers to be slightly ahead of the adoption curve with computer ownership. A study done in late 1997 by ISU's Eric Abbott and Allan Schmidt showed that more than 45 percent of Iowa farmers owned a computer, compared to 41 percent for all U.S. households during the same time period.

More recent surveys indicate that the proportion of farmers owning a computer has grown significantly in the past two years. A March 1998 study conducted by the Gallup Organization on behalf of the Agricultural Publishers Association (APA), and a late 1997 study done by ISU's Mike Duffy for the Iowa Farm Business Association (IFBA), showed that 57 percent and 55 percent of farmers owned computers, respectively.

Internet: Marketing, messages

Purchasing fertilizer, pesticides, and seed over the Internet is still in its infancy. The APA survey showed only 2 percent of large producers purchase farming products or services via the Net. A recent article in *Successful Farming Online* (<www.agriculture.com>) indicates that many producers are reluctant to by-pass their local sources for inputs that require technical information, or in cases where the savings are small and the importance

of supporting local suppliers is valued.

Marketing of livestock and grain also is edging its way onto the Net. In a recent online feature, *Successful Farming's* Dan Looker highlighted new agricultural commerce ventures as well, including live cattle auctions and the development of grain contracting over the World Wide Web. One innovator mentioned is the Ames-based E-Markets, which envisions new ways of buying and selling agricultural and food products. From farm to table, the firm has already gained recognition for development of Internet applications and services for grain, seed, feed, animal and food products industries.

The APA survey of large producers shows a marked optimism for the potential of Internet-based information services. While only 21 percent of those surveyed were currently using such sources in March 1998, 59 percent thought they would be using the Internet for information services in three years.

GIS: Different strokes

Geographic Information Systems (GIS) is another area where the size of operation seems to have some correlation to use of technology. The agricultural publishers' poll concentrated on large operations, while the farm business study focused primarily on commercial, family-sized farms (66 percent of the respondents had sales between \$100,000 and \$500,000).

The farm business data showed only 8 percent of producers using GIS variable rate application. The publishers' poll showed that 37 percent of those respondents used the technology. In both surveys, the proportion of respondents using a GIS yield monitor on their



@griculture Online web site at <<http://www.agriculture.com>>

combine was 11 percent.

The Leopold Center is currently funding a research project coordinated by ISU ag and biosystems engineer William Batchelor comparing various crop management systems, including GIS, in an effort to help participating farmers develop the best tools for their operations. Their goal is to find where GIS can help make farmers most profitable, and where other strategies may be more appropriate.

Satellite-based services

An interesting contrast emerges when comparing the rates of adoption for satellite information services such as DTN/FarmDayta. Several studies done between July 1997 and March 1998 found about 17 percent of farmers using such satellite-based services. In the APA study, less than 20 percent of the large producers used electronic information resources such as DTN/FarmDayta.

In contrast, the study done by ISU's Abbott and Schmidt showed nearly a quarter of farmers using DTN; the study of Iowa producers done for the IFBA showed 43 percent of the respondents using this technology. Whether this difference applies to the sizes of farming operations included in the samples or other factors is unclear. Regional availability of satellite services or even Internet access may also be factors in

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the adoption rate.

Abbott and Schmidt suggest that one factor in heavy adoption of the satellite technologies has been the lack of rural online access to the kinds of information provided by such services (markets, weather, outlooks, etc.). They further suggest that early adoption of the satellite-based sources for this information may impact the ability of Internet-based information sources to penetrate the market.

Pipe dream or panacea?

So what opportunities or problems do technological advances hold for agriculture? One challenge will be the uneven nature of adoption. Write Abbott and Schmidt, "In the short term ... messages will continue to be sent in traditional as well as new forms."

In the realm of enhancing profitability for farmers, technologies that can minimize the middlemen in agricultural transactions may show promise, depending on whether these venues offer enough safeguards and advantages to the producer. In the end, the philosophy espoused by Mangold is probably closest to the mark: farming with better information should result in an appropriate mix of technology, management and resources to sustain agriculture today and in the decades to come.

Studies cited in this article:

"Trends in Agriculture Study: Large Producer Scorecards," April, 1998, Agricultural Publishers Association. For details visit the web site at <<http://www.agpub.org>>.

Eric Abbott and Allan Schmidt, "Beyond Blue Sky Predictions: What the Emerging Facts Really Say about New Information Technologies and Rural Development," 1998, research presented to Agricultural Communicators in Education, Asilomar, California.

To visit other online information sources about agriculture, see the Leopold Center's web page for "Other links of interest."

FROM THE FIELD: LaVon Griffieon

"We have something very special here in Iowa—our climate and our soils. We are lucky enough to live in an environment conducive to food production in a world where, for many millions, such conditions only exist in prayers."



Photo courtesy Wallace House Foundation

— LaVon Griffieon (shown with husband Craig at their farm)

Farms on the doorstep of development

An Iowa State University survey last November confirmed something that LaVon Griffieon had known for a long time: development is gobbling up Iowa farmland, at a rate of 26,000 acres every year.

Griffieon and her husband, Craig, live with urban sprawl. Debris from new home construction litter their corn and soybean fields. Increased traffic makes it dangerous to move farm equipment. Neighbors sell their land to developers, not other farmers. Housing subdivisions threaten their five-generation farm that used to be three miles north of the Ankeny city limits. The city limits are now a half-mile away.

"I could see signs of urban sprawl years ago, so I thought I'd try to educate our schoolchildren about agriculture," said the 4-H leader and mother of four. "I 'adopted' 400 fourth graders in Ankeny, and began sending their teachers a monthly letter about our life on the farm."

So began LaVon Griffieon's work as an Ag in the Classroom volunteer 11 years ago. Her first students are now sophomores in college. More than 12,000 children have toured the Griffieon farm, a cow-calf and feeder beef operation on 1,120 acres (more than half family-owned) where they grow corn, soybeans, alfalfa, oats and seed corn.

In 1998, Griffieon worked with the Conservation Districts of Iowa on a Leopold Center grant to bring the same message to adults in urban areas. The Nonfarmers Guide to Agriculture (Polk County) included 11 presentations and 12 farm tours for 850 people. Yet the sprawl continues.

"We might lose the battle in saving our family farm, but I plan on winning the war and getting land use legislation passed so other agricultural land and natural areas are no longer threatened," Griffieon says.

As an assistant commissioner for the Polk County Soil and Water Conservation District, LaVon works for the protection, maintenance and improvement of Polk County's nonrenewable resources. She is a member of the executive board of the Wallace House Foundation, and is secretary and founding board member of 1000 Friends of Iowa. She has had articles published in many magazines and newspapers, and has authored a weekly column about farm life and agriculture in her local newspaper.

"We have something very special here in Iowa—our climate and our soils," Griffieon says. "We are lucky enough to live in an environment conducive to food production in a world where, for many millions, such conditions only exist in prayers."



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CALENDAR OF EVENTS

 Events marked with this logo are co-sponsored by the Leopold Center.

June–September—Practical Farmers of Iowa field days. For a complete listing, contact Rick Exner, PFI, (515) 294-5486. 

June 10—Ag 101 for Journalists workshop, Atlantic and Lewis. Contact: John Neibergall, Iowa Newspaper Foundation, (515) 244-2145. 

June 17—Expo '99: Creating a Thriving Iowa Agriculture, Scheman Continuing Education Building, Ames. Contact: Ann Schultz, Vision 2020, (515) 294-2496.  See story page 9.

June 22 and July 20—Wallace Area Forage Management Course, Armstrong Research Farm, Lewis. Contact: Carroll Olsen, ISU Extension, (712) 769-2600. 

July 8—Ag 101 for Journalists workshop, Kirkwood Community College, Cedar Rapids. Contact: John Neibergall, Iowa Newspaper Foundation, (515) 244-2145. 

July 28-30—Community Forum: Water Management in the Des Moines and Raccoon River Watersheds. To participate, contact Roger Wolf, Raccoon River Watershed Project, (800) 797-4322. 

August 5—Neely-Kinyon Media Day, Neely-Kinyon Farm, Greenfield. Contact: Kathy Rohrig, Adair County Extension, (515) 743-8412. 

August 24—Neely-Kinyon Field Day, Neely-Kinyon Farm, Greenfield. Contact: Kathy Rohrig, Adair County Extension, (515) 743-8412. 

August 24—Alternative Agriculture Expo, Sioux City. Contact: Darrel Geib, Sioux Rivers Resource Conservation and Development, (712) 276-4648 ext. 19. 

October 5-7—Building on Leopold's Legacy: Conservation for a New Century, Madison, Wis. Contact: Michael Strigel, Wisconsin Academy of Sciences, Arts and Letters, (608) 263-1692.

October 27—On-farm Composting Workshop, Cedar Rapids. Contact: Garth Frable, Iowa Recycling Association, (515) 265-1596. 

June-September—Master Conservationist program, an eight-session course offered at four Iowa locations. Contact: LeAnne Rohrborg, ISU Extension, (515) 294-7222. 