



**Mission Statement**  
The Iowa Learning Farm promotes efficient agriculture production systems that result in agronomic, economic, and environmental improvements through increased awareness and adoption of conservation systems and ethics.



ILF 01 Volume 3 Issue 2 Spring 2007

## See the power of rain

The Iowa Learning Farm has the power to make it rain.

Researchers at Iowa State University have developed a machine that simulates the impact of raindrops on various land surfaces when it rains. The machine is portable so it can travel to field days or events.

“The conservation system’s portable rainfall simulator provides an opportunity to demonstrate, on a small scale, the potential impacts of conservation and land management practices,” said Matt Helmers, Iowa State University (ISU) Extension water quality engineer.

The simulator’s oscillating nozzle can simultaneously distribute rainfall on five different surfaces. The runoff from these different scenarios is collected in glass jars so one can see the results. For example, the rainfall simulator can highlight how keeping various amounts of residue on the land surface can reduce sediment loss, or how grass buffers can be effective, or how much runoff occurs from an urban parking lot. Numerous scenarios can be demonstrated using the simulator.

The simulator can be reserved for non-profit events designed for the groups the Iowa Learning Farm project is trying to reach. Those interested in having the simulator at their event should complete the request form available at [www.extension.iastate.edu/ilf/](http://www.extension.iastate.edu/ilf/)

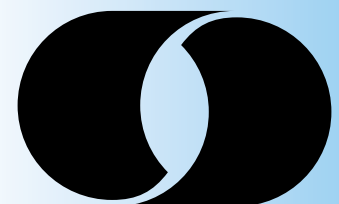
Most recently, ILF staff demonstrated the simulator at the Iowa Children’s Water Festival held at Des Moines Area Community College, Ankeny; and at the Upper Mississippi River Festival at Effigy Mounds National Monument. Both events were targeted to youth between 5th and 8th grade.

The Iowa Learning Farm project staff works to increase the adoption of residue management and conservation practices that are expected to improve water quality and reduce non-point source pollution in Iowa while fostering “a culture of conservation” in the state. To meet this goal, researchers, extension personnel and farmers work together to identify and implement the best in-field management practices to reduce sediment and nutrient loadings from Iowa’s agricultural lands. Engaging farmers and local watershed groups with scientific information directly applicable to their land helps to spread the knowledge through neighbor-to-neighbor conversations related to water quality.



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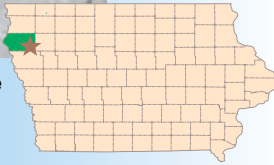
**IOWA STATE UNIVERSITY**  
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LEOPOLD CENTER



Bruce Manthe



## Producer Profile

Meet Iowa Learning Farm cooperator and second-generation farmer Bruce Manthe from Plymouth County. Farming since 1993, Manthe rents the majority of the land he farms. He has taken some grief over the years after he decided to make changes in the way he worked the land.

“No-tillage reduces fuel costs,” stated Manthe. “It decreases terrace blowouts and failures, and it holds more soil where it is. I do it because it makes the best economic sense.”

Bruce has been motivated to implement conservation practices because of the bottom line—it saves money. He is motivated by economics, and improving soil and water quality are added benefits. Each year he has increased the number of acres that are no-tilled and he is hoping to get to 100 percent no-till soon.

Manthe has been an Iowa Learning Farm cooperator since the project began. His demonstration site compares no-till to minimum tillage treatments. At a recent ILF meeting, Manthe mentioned that his involvement with the project showed “that an increase in conservation tillage practices was good for the land and financially beneficial.”

In addition to farming, Manthe is an auctioneer, a member of the National and Iowa Auctioneer Associations, a Farm Bureau delegate, and a church leader.

## Iowa Learning Farm new staff

Jerry DeWitt, Iowa Learning Farm project coordinator, is pleased to announce five new staff members: ILF Field Coordinator John Lundvall, Communications Specialist Carol Brown, Research Associate Jamie Benning, Research Assistant David Correll, and Postdoctoral Research Associate Ranvir Singh, have recently joined the ILF team.

**John Lundvall** works with the communications specialist to increase visibility through integrated outreach and educational programming and materials. Working with NRCS and soil/water conservation district personnel, Lundvall provides ILF educational resources to farmer cooperators, empowering them as spokespeople in their local communities to promote the benefits of soil conservation. Prior to working for the ILF project, he was a project coordinator for John Sawyer in the ISU Agronomy Department since 2001. From 1994 to 2001, he coordinated soybean and corn management field research activities for ISU Agronomy Extension faculty.

Lundvall also manages and operates his family’s 960-acre cash grain farm with his parents in northwest Boone County. He earned a B.S. in 1990 and an M.S. in agronomy (crop production and physiology) in 1993 from Iowa State University.

**Carol Brown** began in May as communications specialist, promoting the ILF project to farmers, agribusiness, government agencies and the general public through various media. She came from Mount Pleasant, Iowa, after 14 years at Iowa Wesleyan College, serving as Director of Communications since 2002. She earned a B.A. in graphic design from Iowa State University in 1985.

**Jamie Benning** is a research associate for the Department of Agronomy. She is working with Mahdi Al-Kaisi on the agronomic research component of the ILF project. She coordinates research site plans with the field crop specialists, collects and analyzes data from cooperators’ sites, and compiles and reports the collected data for outreach. She earned a B.S. in agronomy and an M.S. in soil science from Iowa State University in 2001 and 2003, respectively. Prior to joining the ILF team, she worked for the University of Nebraska as a project coordinator of the Heartland Water Quality Initiative.

**David Correll** is a research assistant for the economics component of the ILF project. He assists Michael Duffy, agricultural economics professor, creating budgets and comparing the profitability of the cooperators’ different experiments.

Correll previously worked in the oil and natural gas sector as an analyst and economist specializing in Russia and the former Soviet Union before coming to



New staff members for the Iowa Learning Farm project (left to right): Field Coordinator John Lundvall, Research Associate Jamie Benning, Communications Specialist Carol Brown, Postdoctoral Research Associate Ranvir Singh, and Research Associate David Correll.

Iowa State. He holds a B.A. in international relations/economics from George Washington University, Washington D.C., and is currently pursuing an M.S. in sustainable agriculture and biorenewable resources and technology at Iowa State.

**Ranvir Singh**, postdoctoral research associate, will be involved with water quality modeling. He will be evaluating the impact of different field management scenarios on sediment and nutrient transport from the agricultural lands. He works closely with ILF farmer cooperators to generate the scientific information directly applicable to local farms.

Prior to joining the ILF project, Singh was a postdoctoral research associate in the Targeted Watershed Program at the Department of Agricultural and Biosystems Engineering at Iowa State University. He holds a master's degree in soil and water engineering from CCS Haryana Agricultural University, Hisar (Haryana), India; and a Ph.D. in environmental sciences from Wageningen University and Research Centre, Wageningen, The Netherlands.

## Iowa Learning Farm Economics Update

*By David Correll, Graduate Research Assistant, Department of Economics  
Iowa State University*

The Iowa Learning Farm project works with farmers to compare current farming practices and systems with emerging, creative approaches. One aspect of the project is the profitability of conservation farming practices. The economics team uses information provided by ILF cooperators about their farm operations, fertilizers, chemicals and yields, then develops a budget analysis to compare cooperators' farming systems, with the results summarized annually.

The ILF project provides farmers with data and observations that over time can help formulate new approaches. Such change does not usually come after only one year; several years of data and observations may be necessary to move to a change in-field. Data from any one year alone does not necessarily support a continuation of existing practice or immediate adoption of a new one. The economics team seeks to capture several years of data before drawing conclusions about changing to new practices or systems, and strives to present long-term economic, cultural and biological data for a more informed decision by the farmer.

The second year of project data analysis was 2006 with 14 new and 17 second-year cooperators participating. Last year 18 cooperators analyzed different tillage systems including no-till, disking, chisel plowing, in-line ripping, field cultivation, ridge tilling and strip tilling. Six cooperators looked at types and quantities of fertilizer application including covered manures, starter fertilizers, and nitrogen usage. The remaining cooperators considered a wide variety of issues such as crop rotation effects, cover crops and the impact of baling corn stalks.

To equalize costs across experiments, the team used ISU Extension estimates and university surveys of herbicide, pesticide, nitrogen, potassium and phosphate prices, and standardized machinery operation costs. To evaluate the returns, three measures of yield were taken from each treatment on each farm and averaged. The team inputs their own assumptions about grain prices, enabling consideration of each experiment in a variety of different price scenarios.

Results from economic analyses varied between 2005 and 2006. Also differences across experiments emerged. For example, multiple cooperators compared one-pass with an in-line ripper versus a no-till system. In some instances, this practice boosted yields and improved profitability, and on other farms no-till was more profitable. Also, each year lodging issues have hindered data collection from different cooperators. The ILF agronomy team and the cooperators are working to further analyze this variation in returns.

Continued cooperation between the ILF team and farmer cooperators will reveal valuable information about the relative profitability of conventional and conservation systems over several years.



## Leopold Center Celebrates 20 Years

Join the Leopold Center for Sustainable Agriculture as it marks 20 years of progress. The Center will mark the milestone with tours and a conference July 10-11 at Iowa State University, Ames.

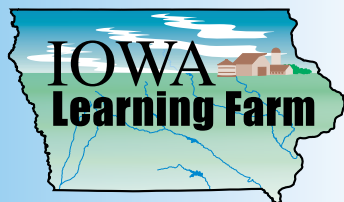
Pre-conference tours are scheduled for July 10 and will highlight some of the Center's work throughout Iowa. Participants can choose from two full-day tours or three half-day tours. Space is limited, so register early. For tour details, see conference web site at [www.ucs.iastate.edu/mnet/leopold/home.html](http://www.ucs.iastate.edu/mnet/leopold/home.html)

The conference will be held on July 11 at the Scheman Building on the Iowa State University campus. Keynote speaker Mark Ritchie, Minnesota Secretary of State, will open the conference by posing some important questions. Ritchie is an Iowa native, an Iowa State alumnus, and an active proponent of the long-term sustainability of agriculture and rural communities.

Discussions will continue throughout the day in more than 20 breakout sessions. The conference will include a midday outdoor festival with demonstrations, interactive displays, and a locally sourced meal.

Please join us in celebrating the first two decades of the Leopold Center and, more importantly, planning for the challenges in the next two decades.

Agronomy Extension  
Iowa State University  
2104 Agronomy Hall  
Ames, Iowa 50011-1010



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**... and justice for all**

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## ILF Winter Activities



*The Iowa Learning Farm hosted its first Networking Workshop on March 5 in Ames. ILF farmer cooperators Bill Buman (left), Shelby County, was one of 14 farmer cooperators who met with ILF team members and ISU Extension crop specialists. The workshop objective was to share conservation practices, challenges and barriers with one another, and to offer ways in which cooperators can encourage the adoption of conservation systems in their communities. It is our goal that cooperators gain prominence in their communities, be viewed as conservation leaders among their peers, and strengthen relationships within the cooperator network.*

*The Iowa Learning Farm participated in the Conservation Districts of Iowa annual legislative day in January. ILF farmer cooperator Robert Pridie, Plymouth County, introduces Governor Chet Culver to the ILF project in the Capitol Rotunda.*

Photo courtesy Conservation Districts of Iowa

