

**Iowa Learning Farm Project
05IFLM006
Integrated Farm and Livestock Management Demonstration Program**

**Year-End Report
January 1-December 31, 2008**

As the Iowa Learning Farm concludes its fourth year, there are many successes to highlight, especially in the wake of a crop season wrought with unforgiving weather. Spring and summer floods and early winter weather slowed planting and harvest, and in some areas stopped things altogether. The silver lining--if there can be one--is that during this summer's flooding, conservation practices already in place were tested and proven to work.

The research and demonstrations by the Iowa Learning Farm this summer support this fact. Our outreach has been on-target, spreading the word of the importance of conservation practices, no matter what the weather.

Our agency partners have been invaluable in support of this project. Our cooperators and conservationists are key players, and are seen by their neighbors as knowledgeable resources.

In addition to our spokespeople, the rainfall simulator remains popular and continues to be requested across the state. Our presence at this year's Farm Progress Show did not go unnoticed. Farmers interested in strip-till were able to discuss, one-on-one, challenges and benefits with those who actually use this practice.

We are just starting to see the impact of the new video series, which was rolled out late in the year. Distribution is ongoing and curriculum is being developed. It will be fascinating to watch how this project unfolds.

We are truly building a Culture of Conservation in Iowa and the midwest. We look forward to a successful 2009.

—Jerry DeWitt, project manager

No. Cooperators	Field Days=No. in Attendance	Meetings/Presentations=No. in Attendance	Publications/Educational Materials*=Distribution	Web Address/Known Links
29		ISU AEP Crop Advantage Series Ames, Jan. 7=51 "Setting the Planter for Good Stands" (Hanna)	<i>Wallaces Farmer</i> January 2008 (changing to reduced or no-till)	http://magissues.farmprogress.com/WAL/WF01Jan08/wal019.pdf
		PFI Annual Conference, Jan. 11-12=200 DeWitt, Brown staffed ILF display	<i>Wallaces Farmer</i> February 2008 (equipment for no-till/strip-till)	http://magissues.farmprogress.com/WAL/WF01Jan08/wal019.pdf
		ISU AEP Corn Mgmt. Short Course Ames, Jan. 23=18 "Field Operation Effects on Residue Management" (Hanna)	<i>Wallaces Farmer</i> March 2008 (ILF Conservationists introduced)	http://magissues.farmprogress.com/WAL/WF03Mar08/wal004.pdf
		Cooperator Meeting, Jan. 15=65 Including staff and conservationists	Winter 2008 Newsletter=mail Feb. 1 *PDF attached	
		Legislative Day, Des Moines, Jan. 24 DeWitt, Comito & cooperators Johnson & Crew staffed display	2007 In Review sheet-Steering Committee meeting	
		Residue Management campaign meeting, Des Moines, Jan. 25=12 DeWitt, Brown attended	One page summary of project=Capitol Rotunda Legislative Day *PDF attached	
		Beginning Farmer Conference, Jan. 26, Ames=100 Duffy staffed ILF display	Updated list of Cooperators/Conservationists with contact information=Cooperator Meeting	
		Water Quality discussion meeting, Delta, Feb. 1= 11 Helmers, Comito, Lundvall	Operation Strip-Till news release *PDF attached	http://www.extension.iastate.edu/news/2008/mar/072601.htm
		Water Quality discussion meeting, West Union, Feb. 8= 18 Helmers, Comito, Lundvall	Crop Year 2008 summaries distributed to each ILF cooperator (Al-Kaisi and Benning)	
		Water Quality discussion meeting, Fort Dodge, Feb. 12= 21 Helmers, Comito, Lundvall		
		Water Quality discussion meeting, Page County, Feb. 20= 17 Helmers, Comito, Lundvall		
		Water Quality discussion meeting, LeMars, Feb. 21= 18 Helmers, Comito, Lundvall		
		Steering Committee meeting, Feb. 15, Ames=16		

		Residue Management campaign meeting, Ames, Feb 15=10 DeWitt, Brown attended		
		Iowa Water Monitoring Conference, Ames, Feb. 25-26 ILF Display, Brown staffed		
		Iowa Water Conference, Ames, Feb. 26-27 ILF Display, Brown staffed		
		Iowa Storm Water Conference, Feb. 27, Iowa City=22 rainfall simulator demonstrated by Carl Pederson and Lundvall		
		Strip-Till Seminar, Ft. Dodge, Mar. 17=80 ILF sponsored, Hanna presenter, Lundvall, Brown, Herringshaw attended, ILF display		
	June 11, ILF Field Day Doug Nolte farm, Muscatine Co= 30	April 2, ILF Team meeting	March=Rainfall Simulator info sheet (reprint)	
	June 16, ILF Field Day Dan Eklund farm, Webster County= 13	April 3, NRCS listening session, Corning, IA (DeWitt, Lundvall, Comito)=22	April=ILF general info sheet (reprint)	
	June 17, Western Iowa No-till Field Day, Minden= 130	April 6, rainfall simulator at Watershed Festival, Lake View	April=ILF Watershed stickers (to give away at rainfall simulator demonstrations)	
		April 9, NRCS presentation to 120 staff members, Fairfield (Helmers, Comito, Lundvall)	April=Spring Newsletter*	
		April 10, NRCS listening session, Cherokee (Comito, Lundvall, McGuire)	May=Reprint of rainfall simulator signs (12)	
		April 14, ILF Video Team Production meeting	June=Nolte Field Day flyers (mailed to Muscatine Co. Extension)	
		April 16, Culture of Conservation presentation to staff, Des Moines Water Works (Comito)	June=Nolte Field Day postcards (mailed to Nolte house)	
		April 17, Communications team meeting	June=Nolte Field Day news release*	
		April 22, E. Pottawattamie SWCD Women Landowner event (rainfall simulator)	June=Eklund Field Day flyers (mailed to Webster Co. Extension)	
		April 23, Individual PI planning sessions with Lemke and Ilvess in Ames	June=Eklund field day news release*	
		April 24, Adair Co. Youth Event,	June=Water Quality Modeling	

		Greenfield (rainfall simulator)	Summary sheets* (5 different sheets)	
		May 1, Allamakee Co. SWCD 6 th grade field day (rainfall simulator)	<i>Wallaces Farmer</i> April 2008 (rainfall simulator out this summer)	http://magissues.farmprogress.com/WAL/WF04Apr08/wal025.pdf
		May 2, 5-7, Ag Environment days, Eagle Grove (rainfall simulator)	<i>Wallaces Farmer</i> May 2008 (perceptions about water in Iowa)	http://magissues.farmprogress.com/WAL/WF05May08/wal011.pdf
		May 8, Iowa Children's Water Festival, DMACC (rainfall simulator)	<i>Wallaces Farmer</i> , May 2008 Operation Strip-Till Gets Rolling	http://magissues.farmprogress.com/WAL/WF05May08/wal001.pdf
		May 9, Communications meeting ILF Video Team production meeting	<i>Wallaces Farmer</i> June 2008 (cover crops)	http://magissues.farmprogress.com/WAL/WF06Jun08/wal024.pdf
		May 13, Nodaway Valley Middle School event, Ames (rainfall simulator)	Agronomic Fact Sheet (Nolte)	
		May 14-15, Carroll Co. SWCD Environment Days (rainfall simulator)	Agronomic Fact Sheet (Eklund)	
		May 20, NRCS, listening session, Independence (Helmers, Comito)		
		May 20, E. Pottawattamie Co. SWCD 5 th Grade Field Day (rainfall simulator)		
		May 28, Union Grove Watershed Kickoff, Tama Co. (rainfall simulator)		
		June 1, Reiman Gardens Ice Cream Social (rainfall simulator)		
		June 2, Steering Committee meeting		
		June 3, Walnut Creek Watershed Kickoff, Poweshiek Co. (rainfall simulator)		
		June 4, Littlefield Lake Watershed Kickoff, Audubon Co. (rainfall simulator)		
		June 9, Meeting with Southern Iowa Agricultural Heritage Foundation (Helmers, Comito, Lundvall)		
		June 19, ISU NE Iowa Research Farm Field Day, Nashua (rainfall simulator)		
		June 21, NRCS/SWCD Tuttle Lake Day, Emmet Co. (rainfall simulator)		
		June 23, ILF Communications meeting, ILF Video Team production meeting		
		June 25, IFBF Conservation and Natural Resource Conference (Brown, Zhou)		
	July 1, NE Iowa No-Till Field Day, C. Jensen farm, Fayette County = 45	July 8, Rathbun Lake Workshop, Wayne County (rainfall simulator)	July=Rainfall simulator county fair news releases (9)	
	July 10, ILF Field Day Tom Wagner farm, O'Brien County = 62	July 9, SARE Residue Management Meeting, Lewis=18 (Al-Kaisi, Benning)	June/July=Wagner Field Day postcards (mailed to Wagner house)	

	July 29, ILF Water quality event, Rick Juchems farm, Butler County = 35	July 10, Communications Team meeting	July=Tom Wagner Field day news release	
	August 6, Operation Strip-till, Smeltzer Trust Farm, Webster County=	July 11, Davis County Fair (rainfall simulator)	July=ILF Summer Newsletter*	
	August 26-28=Farm Progress Show	July 12, Des Moines Farmers Market (rainfall simulator)	July=flyers for Juchems event	
	Sept. 24, North Iowa (Mitchell Co. NRCS/SWCD & Mitchell Co. ISU Extension) Tillage Field Day, St. Ansgar (rainfall simulator)=150	July 14, 15,16,17, 22, Crop Diagnostic Clinic, FEEL, Ames (Al-Kaisi, Benning, Helmers)=195	July=Operation Strip-till news release (flyers/posters handled by Dave Nelson)	
		July 15, Adams County Fair (rainfall simulator)	July=Water Quality Modeling Summary sheets reprints (5 sheets)	
		July 18, SARE Residue Management Meeting, Nashua=13 (Al-Kaisi, Benning)	August=Signage/exhibit prep for FPS	
		July 18, Boone County Fair and Madison County Fair (rainfall simulator)	August=FPS exhibit news release (through Ext. distribution)	
		July 22, "Jazz in July" event at Des Moines Botanical Center (rainfall simulator)	Exhibit at Clay County Fair (Paul Kassel)	
		July 23, Rainfall simulator with NRCS tent on RAGBRAI route	<i>Wallaces Farmer</i> July 2008 (heavy rain and soil erosion)	http://magissues.farmprogress.com/WAL/WF07Jul08/wal021.pdf
		July 23, Hamilton County Fair (rainfall simulator)	<i>Wallaces Farmer</i> August 2008 (Not your father's tillage)	http://magissues.farmprogress.com/WAL/WF08Aug08/wal019.pdf
		July 24, Warren County Fair (rainfall simulator)	<i>Wallaces Farmer</i> Sept 2008 (cover crops and EQIP payments)	http://magissues.farmprogress.com/WAL/WF09Sep08/wal033.pdf
		July 25, Des Moines County Fair (rainfall simulator)		
		July 26, Page County Fair (rainfall simulator)		
		July 31, Ida County Fair (rainfall simulator)		
		August 4, ILF Team meeting		
		Aug. 19, SARE Residue Management Mtg, Storm Lake=11 (Al-Kaisi, Benning)		
		August 19, PFI summer camp, Boone (rainfall simulator)		

		August 20, Neely-Kinyon Research Farm (rainfall simulator)		
		August 21, SARE Project meeting, Storm Lake		
		Sept. 4, Iowa Lakes Community College Ag Field Day, Estherville (rainfall simulator)		
		Sept. 5, Dickinson SWCD 6 th grade Outdoor Classroom, Spirit Lake (rainfall simulator)		
		Sept. 10, SARE Residue Management Meeting, Crawfordsville=19 (Al-Kaisi, Benning)		
		Sept. 11, Communications Team meeting		
		Sept. 11-12, Crawford Co. 7 th Grade Ag Day (rainfall simulator)		
		Sept. 15, Soil Clinic, FEEL, Ames=15 (Al-Kaisi, Benning)		
		Sept. 16, Buchanan Co. NRCS 5 th grade Environment Day, Hazelton (rainfall simulator)		
		Sept. 17-18, Fayette Co SWCD Education Field Days (rainfall simulator)		
		Sept. 25, Howard Co. 6 th grade Outdoor classroom, Cresco (rainfall simulator)		
		Sept. 28, Blackhawk SWCD Upper Miller Creek Watershed Event (rainfall simulator)		
		Sept. 30, Boone Co. Extension 4 th Grade Outdoor Classroom, Ledges State Park (rainfall simulator)		
	Dec. 8: Learning From the Floods of 2008 conference ILF cooperator Rick Juchems was a speaker	Oct. 8: ILF Team meeting	News release: New Bioeconomy Project Underway	Wallaces Farmer: http://magissues.farmprogress.com/WAL/WF11Nov08/wal031.pdf
		Oct. 14: SARE Residue Training, Fort Dodge; Al-Kaisi=30	News release: Iowa Learning Farm offers new videos	Wallaces Farmer: http://magissues.farmprogress.com/WAL/WF12Dec08/wal028.pdf
		Oct. 8: Meeting with ILF, LCSA and PFI communications staff	Insert booklet for new video series DVD	

		re: GLBW; Brown and L. Miller		
		Oct. 24: ILF Steering committee meeting	DVD set for SWCD commissioners; DVD compilation for others— packaging material for both	
		Nov. 11: ILF Communications meeting	Display banner promoting video series	
		Nov. 11: Presentation at ISU AEP Integrated Crop Management Conference; Al-Kaisi=500	Dec. 2: Talk @ 12 radio program, Iowa Public Radio; Comito, DeWitt	
		Nov. 19-20: CDI Conference; Comito, Helmers presenters, 2 exhibit booths		
		Nov 21: Soil Erosion Value meeting; Dean Lemke, John Myers, Al-Kaisi, Duffy, Helmers		
		Nov. 21: Residue Management group meeting, Des Moines; DeWitt, Brown, Harpenau		
		Dec. 1: ILF Full team meeting		
		Dec. 7: Iowa Farm Bureau annual meeting; ILF booth, DeWitt		
		Dec. 11: ILF Communications Meeting		
		Dec. 16: Residue Management communications meeting, Des Moines; Brown, Harpenau		
		Dec. 19: Residue Management Group meeting, Des Moines (via phone); DeWitt, Harpenau, Brown		
		Dec. 29: Residue Management communications meeting, Des Moines; Brown, Harpenau		

ON-FARM DEMONSTRATION COMPONENT (Al-Kaisi and Benning)

January 1-March 31:

On-Farm Demonstration Component:

During the months of January-March 2008, the agronomic component team (Al-Kaisi and Benning) continued summarizing 2008 data collected from producers and field agronomists. Analysis on summarized data from 2005-2007 is in progress. Individual farmers' reports were prepared and sent to farmers. Data from demonstration sites were used to prepare PowerPoint presentations for the ILF workshop on January 15, 2008 and other workshops. The year-end report was finalized and distributed to producers and workshop attendees during the January ILF workshop. Benning met with Field Agronomists on March 25 to go over next season's site demonstrations and provided protocols, data collection sheets, and other materials for data and samples collections.

Outreach Component:

Outreach activities included participation in Agriliant Agronomists Training on March 4 in Council Bluffs. Dr. Al-Kaisi presented residue management information in two presentations. A total of 70 agronomists were in attendance at the presentations.

Potential partnership opportunities were explored in a February 29th SARE education project planning meeting. The project titled "Impact of Biomass Removal for Bioenergy on Soil and Water Quality," will conduct roundtables and field training events on the importance of residue for soil and water quality. Current ILF cooperator research and demonstration sites are being considered as potential locations for hands-on field training events and field days.

Jamie Benning was on maternity leave from January 4 through March 10.

Outcomes:

Dr. Al-Kaisi and Jamie Benning will be developing educational materials for 2008 field activities based on data collected from all ILF demonstration sites. Al-Kaisi and Helmers will work together to utilize data collected from all sites for soil and water quality modeling. Several PowerPoint presentations have been developed and used in the ILF educational activities and for winter in- and out-of-state invited presentations by Dr. Al-Kaisi.

April 1-June 30:

On-Farm Demonstration Component:

During the months of April-June 2008, Dr. Al-Kaisi and Benning prepared for and completed soil sampling and measurements at the seven detailed research and demonstration sites. Soil samples and data from the 28 research and demonstration sites have been sent by extension field agronomists and are currently being processed and analyzed. Summary fact sheets including the first three years of data have been prepared for the Caviness demonstration. Benning will continue to summarize data and prepare summary fact sheets for all cooperators.

Outreach Component:

Outreach activities included participation in the western Iowa No-Till Field Day in Minden. Al-Kaisi presented information on the benefits of no-till and demonstrated differences in CO₂. A total of 150 farmers, agency staff, and university specialists were in attendance at the field day.

Al-Kaisi also presented information on no-till at Dan Eklund's ILF field day. A fact sheet summarizing the agronomic research data was also presented.

Outcomes:

Al-Kaisi and Jamie Benning will continue to develop educational materials for 2008 field activities based on data collected from all ILF demonstration sites. Drs. Al-Kaisi and Helmers will work together to utilize data collected from all sites for soil and water quality modeling. Several PowerPoint presentations have been developed and used in the ILF educational activities and for invited presentations by Al-Kaisi.

July 1-September 30:

On-Farm Demonstration Component:

Soil samples taken during the spring months were processed and analyzed for bulk density, pH, and microbial biomass. Two undergraduate student hourly workers were supervised by Benning to assist in the soil processing and analysis during this quarter. This data is being summarized for publications and presentations. Progress is being made on the analyses for dry aggregate stability, wet aggregate stability, total carbon, total nitrogen, and organic matter.

Outreach:

Al-Kaisi and Benning presented soil quality information to approximately 195 participants during 3 sessions of the ISU Crop Diagnostic Clinic held July 15, 17, and 22. Research methods used to collect data at the ILF detailed sites were described through presentations and hands on demonstrations.

The SARE project titled "Impact of Biomass Removal for Bioenergy on Soil and Water Quality," conducted three roundtable/listening sessions on the importance of residue for soil and water quality. The roundtables were held in Lewis, Storm Lake, Nashua, and Crawfordsville, with 18, 11, 13, and 19 NRCS, SWCD Commissioners, and ISU Extension representatives attending, respectively. Current ILF cooperator research and demonstration sites are being considered as potential locations for hands-on field training events and field days in 2009.

Al-Kaisi and Benning presented residue management research and information for a soil clinic held on September 15 at the Field Extension and Education Laboratory. Fifteen CCAs were enrolled in the course.

Al-Kaisi presented tillage research during a session at the North Iowa Tillage Field Day near St. Ansgar. Approximately 150 people were in attendance.

Outcomes:

Al-Kaisi and Benning will continue to develop educational materials for 2008 field activities based on data collected from all ILF demonstration sites. Several PowerPoint presentations have been developed and used in the ILF educational activities and for invited presentations by Al-Kaisi.

October 1-December 31:

On-Farm Demonstration Component:

During the months of October to December, soil and plant samples were analyzed for soil C and N, deep soil sampling from selected detailed sites were collected; grain yields and corn fall stalk samples were collected and sent to the soil testing lab to be analyzed. We continued work with Field Agronomists and Cooperators to finalize and follow up on receiving yield data and other data collected through the summer. We started analyzing and tabulating data for all 28 demonstration and 6 detailed sites. Data are summarized for the annual report and individual cooperator results are summarized for each site. During the month of November Jamie Benning accepted a different position and her position was advertised. A new person has been hired as a Research Associate and he will start this position on January 5, 2009.

Outreach Component:

Al-Kaisi presented residue management and soil quality information to approximately 30 participants during the residue training program in October 14. The SARE project titled "Impact of Biomass Removal for Bioenergy on Soil and Water Quality," conducted roundtable/listening sessions on the importance of residue for soil and water quality. The roundtables were held in Fort Dodge on October 14 for representatives from NRCS, SWCD Commissioners, and ISU Extension. Current ILF cooperator research and demonstration sites are being considered as potential locations for hands-on field training events and field days in 2009.

Outcomes:

We will continue to develop educational materials for 2009 field activities based on data collected from all ILF demonstration sites in 2008. Several PowerPoint presentations have been developed and used in the ILF educational activities and for invited presentations by Al-Kaisi.

WATER QUALITY COMPONENT (Helmets, Hanna and Zhou)

January 1-March 31:

During the first quarter of 2008, we continued our soil erosion and water quality modeling. Annual surface runoff was estimated for different tillage systems at each of the five study regions using the WEPP model. Simulation results showed that reduced tillage could greatly reduce surface runoff in some regions, including Northwest Iowa, Des Moines Lobe, and Northeast Iowa. For Southern Iowa and Loess Hills regions, runoff was only slightly different between conventional tillage and reduced tillage systems (Table 1).

The average annual total P loss which is bound to sediment and lost accordingly was estimated by:

$$P_{\text{sed}} = P_{\text{soil}} \times W_{\text{sed}} \times W_{\text{er}}$$

Where P_{soil} is the total P content in 0-6 inch soil depth (530 ppm was used in this study), W_{sed} is the estimated sediment yield by the WEPP model, and W_{er} is the enrichment ratio of each study site in WEPP model output. Total P loss was significantly lower in reduced tillage systems than conventional tillage, with the lowest annual P loss for no-till (Table 1). Among five regions, the Des Moines Lobe field had lowest P loss, while the Loess Hills field had the highest P loss.

We investigated the influence of channel shape on sediment transport and deposition in grassed waterways. Simulation results showed that waterways with triangular shape, which is the typical shape for grassed waterways, could markedly reduce sediment yield, in comparison with the naturally eroded waterways (Table 2).

The impact of terraces on reducing in-field soil loss was simulated using the WEPP model. Simulation results showed that terraces could effectively reduce soil loss and sediment yield (Figure 1). We found terraces are most effective on controlling soil erosion for conventional-till, but modeling indicated little benefit on reducing soil loss from a no-till system. These results were a bit counterintuitive and as such we have been in discussion with WEPP developers to evaluate model predictions under these scenarios.

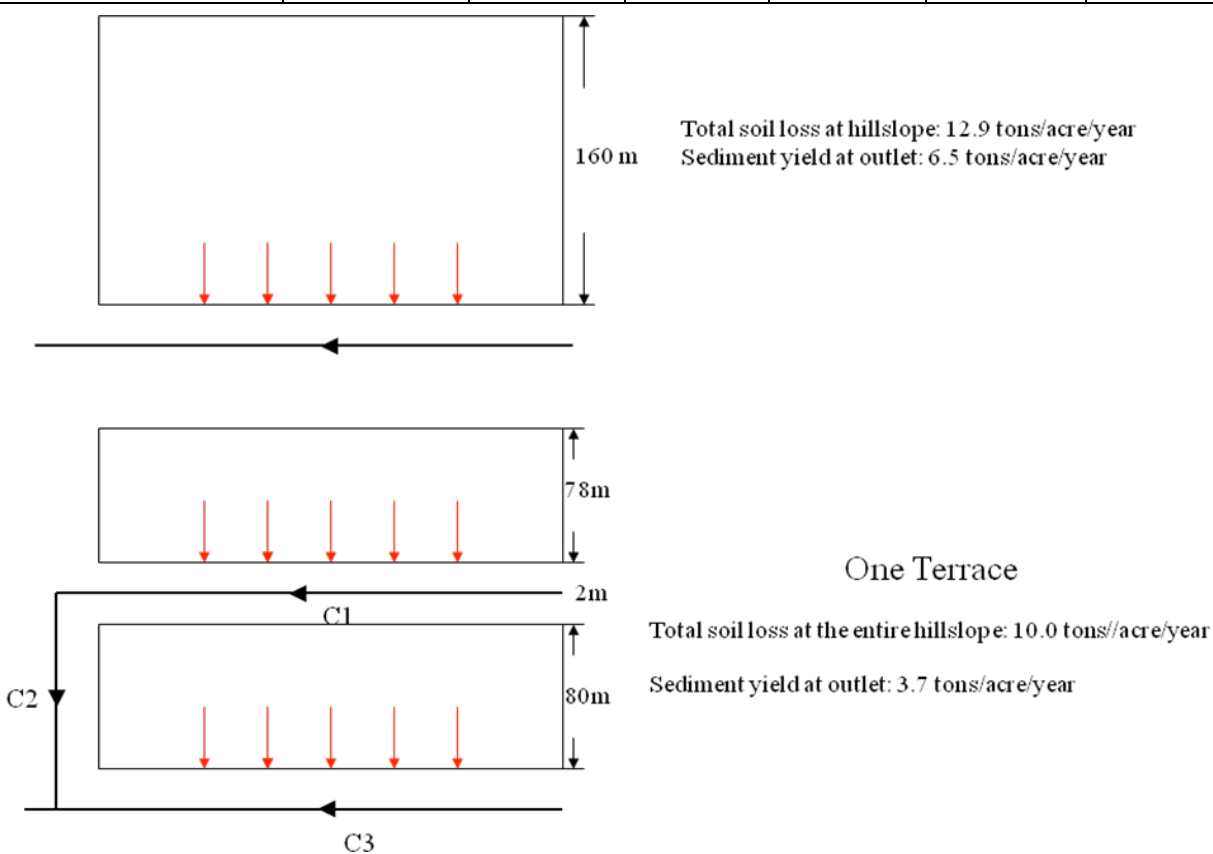
Based on the water quality modeling results, an information sheet has been developed for each of the study regions and will be finalized in early April, 2008. This information will be incorporated into programming in 2nd and 3rd quarter 2008. We presented some of the water quality modeling results in the ILF Winter Workshop in middle January. In February, we attended five ILF water quality lunchtime discussion sessions at five counties (Keokuk, Fayette, Webster, Page, and Plymouth), each representing one of the five study regions. We discussed water quality related issues of with local farmers, NRCS staff, and ISU Extension personnel.

Table 1. Simulation results of surface runoff and phosphorus bound to sediment under different tillage systems. NT: no-till; ST: strip-till; DT: disk-till; CP: chisel plow; CT: conventional-till.

		NT	ST	DT	CP	CT
Northwest Iowa	Surface Runoff (inch/year)	2.24	2.49	2.61	2.86	3.16
	Sediment yield (tons/acre/year)	0.43	0.58	1.48	2.07	4.20
	P on sediment (pounds/acre/year)	0.72	0.98	2.48	3.48	7.05
Des Moines Lobe	Surface Runoff (inch/year)	3.25	3.63	3.62	4.00	4.22
	Sediment yield (tons/acre/year)	0.16	0.18	0.30	0.45	0.61
	P on sediment (pounds/acre/year)	0.33	0.37	0.62	0.92	1.27
Northeast Iowa	Surface Runoff (inch/year)	2.16	2.74	2.77	2.80	3.06
	Sediment yield (tons/acre/year)	0.19	0.31	0.61	1.00	2.39
	P on sediment (pounds/acre/year)	0.26	0.42	0.81	1.33	3.15
Southern Iowa Plains	Surface Runoff (inch/year)	4.18	4.15	4.20	4.08	4.15
	Sediment yield (tons/acre/year)	0.42	0.65	1.46	2.07	4.02
	P on sediment (pounds/acre/year)	0.47	0.74	1.68	2.36	4.59
Loess Hills	Surface Runoff (inch/year)	4.64	4.58	4.48	4.60	4.79
	Sediment yield (tons/acre/year)	1.14	1.74	5.87	7.45	12.15
	P on sediment (pounds/acre/year)	1.31	1.99	6.66	8.51	13.88

Table 2. Simulation results of sediment yield (tons/acre/year) for naturally eroded tilled waterways (TW) and triangular grassed waterways (GW) under different tillage systems. NT: no-till; ST: strip-till; DT: disk-till; CP: chisel plow; CT: conventional-till.

	Waterways	NT	ST	DT	CP	CT
Northwest Iowa	TW	0.43	0.58	1.48	2.07	4.20
	GW	0.14	0.19	0.54	0.75	1.18
Des Moines Lobe	TW	0.16	0.18	0.30	0.45	0.61
	GW	0.05	0.07	0.10	0.14	0.20
Northeast Iowa	TW	0.19	0.31	0.61	1.00	2.39
	GW	0.06	0.09	0.21	0.35	0.62
Southern Iowa Plains	TW	0.42	0.65	1.46	2.07	4.02
	GW	0.11	0.18	0.45	0.63 </td <td>1.06</td>	1.06
Loess Hills	TW	1.14	1.74	5.87	7.45	12.15
	GW	0.34	0.55	1.75	2.17	3.28



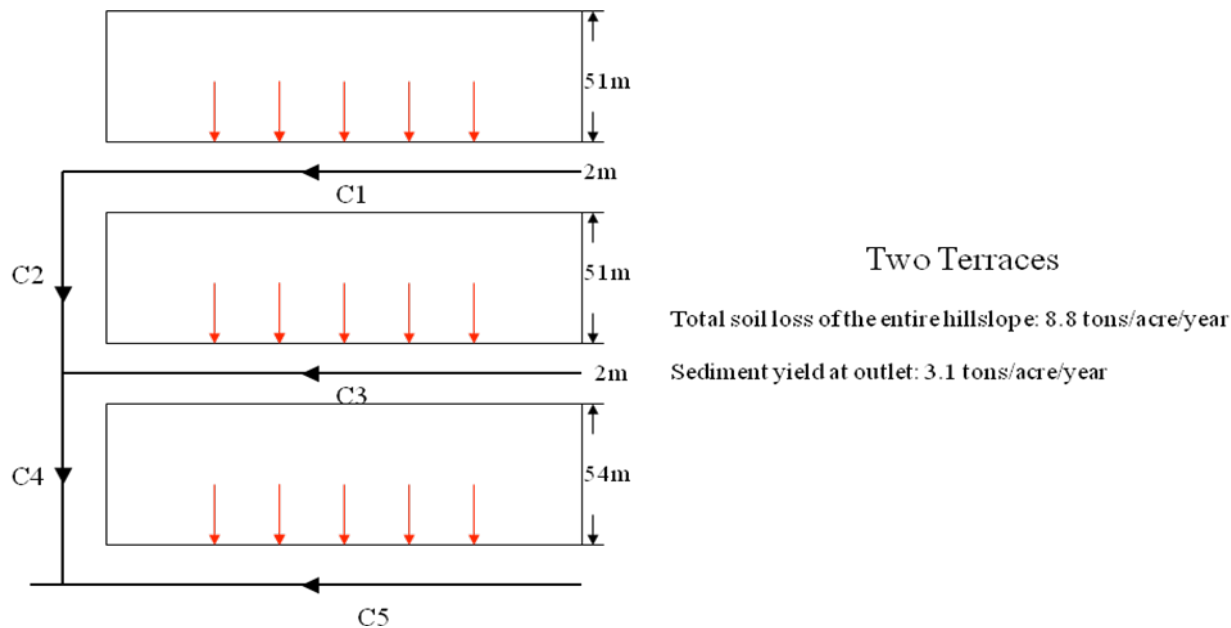


Figure 1. Illustration of the impact of terrace on soil erosion on a 160m hillslope with conventional tillage.

April 1-June 30:

During the second quarter of 2008, we continued our water quality modeling to investigate the impacts of tillage systems on surface water runoff and sediment yield during extreme storm events. The mean annual surface runoff amount and sediment yield provide the average effect over a long period, but it does not tell the whole story. In many cases, such as the recent floods in Iowa, the responses to the extreme events are more of concern. We performed the return period analysis to estimate the magnitudes of surface runoff and sediment yield for different extreme events (2-year, 5-year, 10-year, 20-year and 25-years events) under different tillage systems (no-tillage, strip-tillage, disk-tillage, chisel plow and subsoiling). The return period is the average elapsed time between occurrences of an event (e.g. rainfall, runoff, sediment yield) with a certain magnitude or greater (Haan, 1977). Over a long period of time, the average time between events of equal or greater magnitude for a 10-year event is 10 years. In other words, a 10-year event has a probability of 10% of being equaled or exceeded in any one year.

The study farm was located in Winneshiek County, northeast Iowa. The total study area was about 302 acres and the mean slope of the study area was about 9%. Downs silt loam (Fine-silty, mixed, superactive, mesic Mollic Hapludalfs) was predominant soil at the site.

The simulation results showed that big storm events would lead to much greater surface runoff and soil erosion regardless of tillage system. For example, the surface runoff of disk-tillage system was estimated to be about 1.9 inches for a 2-year event and 4.6 inches for a 25-year event. Likewise, the sediment yield of disk tillage system was estimated to be 12.5 and 46.9 t/ac for a 2-year and 25-year event, respectively (Table 1).

There was little difference of surface runoff among different tillage systems for a simulated extreme event, while the systems with more tillage showed more increase of sediment yield than the systems with less tillage during larger storm events. For example, the estimated sediment yield increased from 4.5 to 7.7 t/ac with no-tillage during a 2-year event and a 25-year event, but jumped from 20.8 to 77.1 t/ac with subsoiling. This suggests that no-tillage and strip-tillage are particularly effective in preventing severe soil loss during large storms.

Table 2 shows the annual onsite soil loss and sediment yield of the entire study area for different tillage systems. More tillage led to more soil loss and sediment yield. The sediment delivery ratio (the ratio of sediment yield to the total sediment eroded) ranged between 0.59 and 0.84, with chisel plow being the lowest and no tillage being the highest. Due to the high slope percentage (9%), even the annual sediment yield of no tillage (6.8 t/ac) was more than the commonly-used target value, i.e. 5 tons per acre. Therefore, additional conservation structures may need to be adopted in this area, e.g. filter strips, terraces.

The steepness of slopes had significant impact on soil erosion. The sediment yields of the study farm were compared to another farm with gentle slope (about 1.7%) in the same region (northeast Iowa). The simulation results showed that the farm with greater slope (9%) had much higher annual sediment yield and sediment delivery ratio than the farm with 1.7% slope (Table 3).

With the help from Carol Brown, we prepared five handouts (“impact of conservation practices on soil erosion”) for summer field days, one for each study region. Those one-page (two sides) handouts were designed to provide useful information to farmers and conservationists on soil erosion and water quality modeling under a variety of conservation management practices.

During the spring and early summer, rainfall simulator has been busying in demonstrating at field days, county fairs, and conferences. Two undergraduates (Scott Jacobsen and Elizabeth Juchems) were hired to help demonstrate the rainfall simulator.

A paper “Cost-benefit analysis of conservation management practices for sediment reduction in an Iowa agricultural watershed” has been prepared and is ready to be submitted to the Journal of Soil and Water Conservation. In this paper, we modeled the impacts of tillage systems and other conservation practices (grassed waterways, filter strips and terraces) on sediment yield reduction. The cost-effectiveness of conservation practices was also evaluated in the paper.

Reference: Haan, C.T. 1977. Statistical methods in hydrology. Iowa State University Press, Ames, Iowa.

Table 1. Return period analysis for different tillage systems

	Return period (year)	Daily precipitation (inch)	Surface runoff (inch)	Sediment yield (t/ac)
No-till	2	3.0	1.9	4.5
	5	4.0	3.0	5.9
	10	4.5	4.0	6.5
	20	4.9	4.2	7.2
	25	6.0	4.7	7.7
Strip-till	2	3.0	1.9	5.3
	5	4.0	2.9	6.7
	10	4.5	4.0	7.9
	20	4.9	4.2	8.6
	25	6.0	4.7	8.9
Disk-till	2	3.0	1.9	12.5
	5	4.0	3.0	20.2
	10	4.5	3.8	31.0
	20	4.9	4.2	37.3
	25	6.0	4.6	46.9
Chisel plow	2	3.0	1.9	15.1
	5	4.0	3.0	25.2
	10	4.5	3.8	40.0
	20	4.9	4.2	49.7
	25	6.0	4.6	64.2
Subsoiling	2	3.0	1.9	20.8
	5	4.0	3.0	34.4
	10	4.5	3.8	51.8
	20	4.9	4.2	59.7
	25	6.0	4.6	77.1

Table 2. Annual soil loss rate, sediment yield rate and sediment delivery ratio for different tillage systems.

	Soil loss (t/ac/yr)	Sediment yield (t/ac/yr)	Sediment delivery ratio
No-till	8.1	6.8	0.84
Strip-till	10.4	8.3	0.79
Disk-till	41.5	25.1	0.60
Chisel plow	52.1	31.0	0.59
Subsoiling	67.7	45.9	0.68

Table 3. Sediment yield and sediment delivery ratio of two farms with different steepness in northeast Iowa.

	9.0% slope		1.7% slope	
	Sediment yield (t/ac/yr)	Sediment delivery ratio	Sediment yield (t/ac/yr)	Sediment delivery ratio
No-till	6.8	0.84	0.19	0.54
Strip-till	8.3	0.79	0.31	0.51
Disk-till	25.1	0.60	0.61	0.54
Chisel plow	31.0	0.59	1.00	0.51
Subsoiling	45.9	0.68	2.39	0.48

July 1-September 30:

During the third quarter of 2008, we investigated the performance of various conservation practices (grassed waterways, filter strips and terraces) on sediment yield during extreme storm events using the WEPP model. Two farms in northeast Iowa were selected to investigate the impact of slope steepness on soil erosion during the extreme events. The farm located in Winneshiek County (site 1) has a 9% slope while the farm in Delaware County (site 2) has a 1.7% slope. The sizes of both farms are about 300 acres. The predominant soils are Downs silt loam and Clyde silty clay loam for the sites 1 and 2, respectively.

For the no-till system, grassed waterways showed relatively small impacts on sediment reduction during extreme events (Figures 1 and 2). This is likely because the high-percentage field residue cover from no-till has already greatly reduced sediment load before it enters into the flow channels. On the other hand, grassed waterways reduced sediment yield to a greater extent with chisel-plow system for both study sites, especially during the 10, 20, and 25 return periods (Figures 1 and 2).

Vegetative filter strips only slightly reduced sediment yield at site 1, while provided considerable reduction in sediment yield at site 2 during the extreme storm events (Figures 3 and 4). This might be due to the relatively gentle slope of site 2, which generally has lower flow velocity that results in greater trapping of sediment by grasses. Additional work is needed to test WEPP in simulating the performance of filter strips.

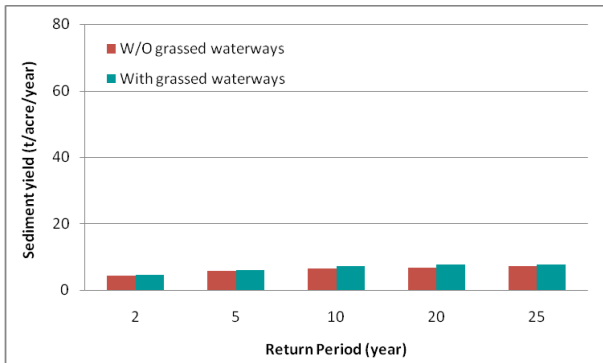
Terraces were effective in sediment reduction at the steeper site 1 for both no-till and chisel-plow (Figure 5). The increases of sediment yield during some extreme events with no-till at site 2 might be because the inter-rill flow and erosion are more critical than rill erosion for a no-till or pasture system (Figure 6). As a result, the WEPP model does not do a good job on simulating the impact of terraces by reducing slope length for a no-till system, especially for slopes relatively flat.

During the third quarter, we also began efforts to model the impact of filter strips on surface runoff and sediment yield at small watershed scale using field data near the Neal Smith National Wildlife Refuge. The results will be beneficial for water quality modeling for Iowa Learning Farm watersheds and other Iowa watersheds as well, since we can verify the performance of WEPP with field data.

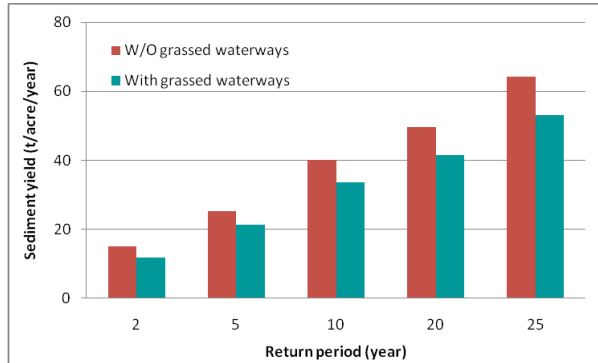
We submitted the paper “Cost-benefit analysis of conservation management practices for sediment reduction in an Iowa agricultural watershed” to the Journal of Soil and Water Conservation in July and it is still under review.

The rainfall simulator continued to be active in demonstrating at field days, county and state fairs, and conferences.

Hanna was busy serving as a speaker at several public events during this quarter including: the roundtable discussions held by Al-Kaisi and Benning in Atlantic (July 9), Nashua (July 18), and Storm Lake (August 19); at the Rathbun Lake Workshop (July 8); the Tom Wagner Field Day (July 10); with the rainfall simulator at the Des Moines Farmers Market; and the summer FEEL Crop Diagnostic Schools (July 14, 17, and 21) and a September 15 soil management clinic.

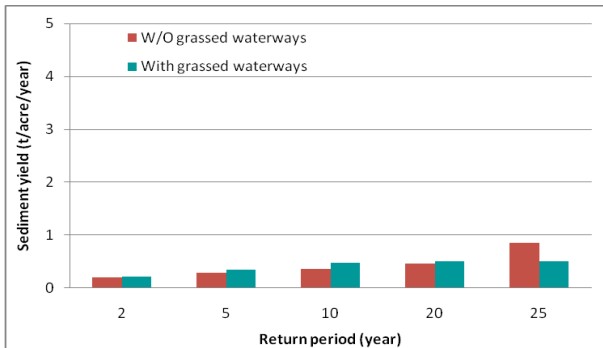


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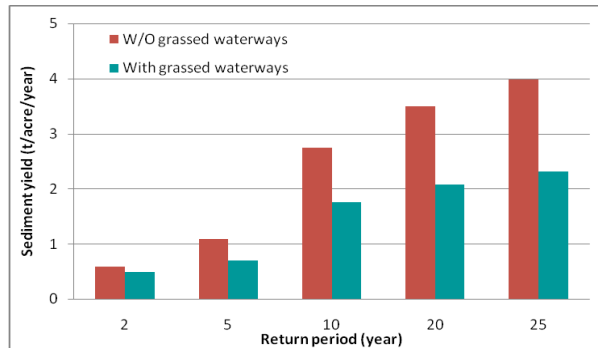


(b)

Figure 1. Performance of grassed waterways for site 1 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.

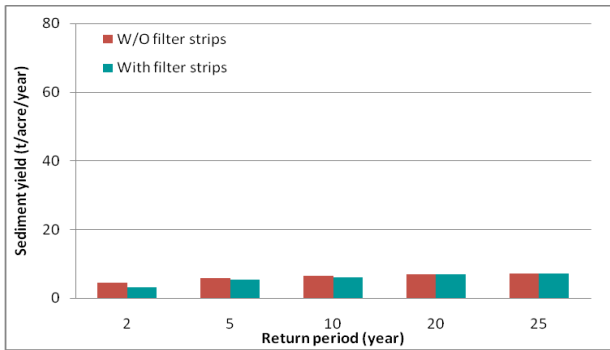


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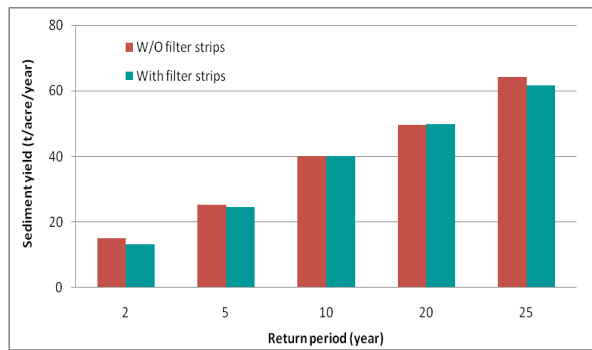


(b)

Figure 2. Performance of grassed waterways for site 2 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.

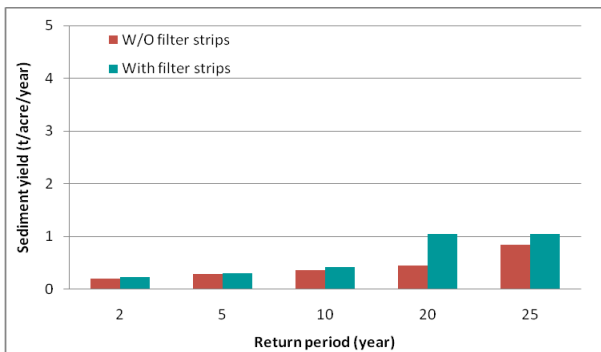


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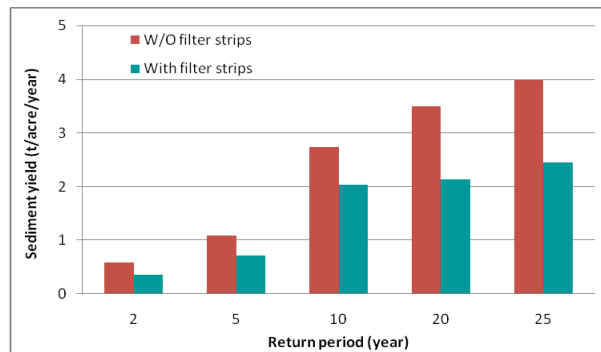


(b)

Figure 3. Performance of filter strips for site 1 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.

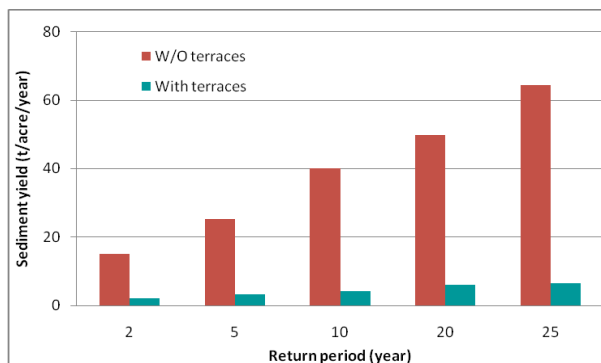
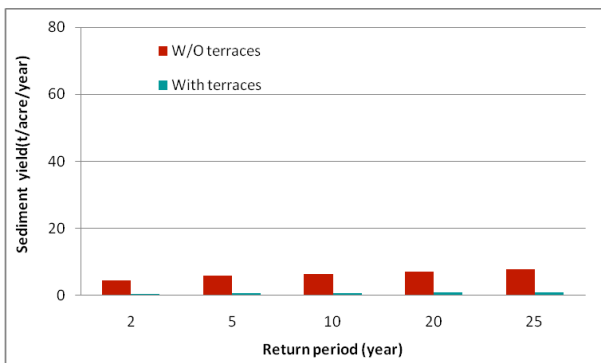


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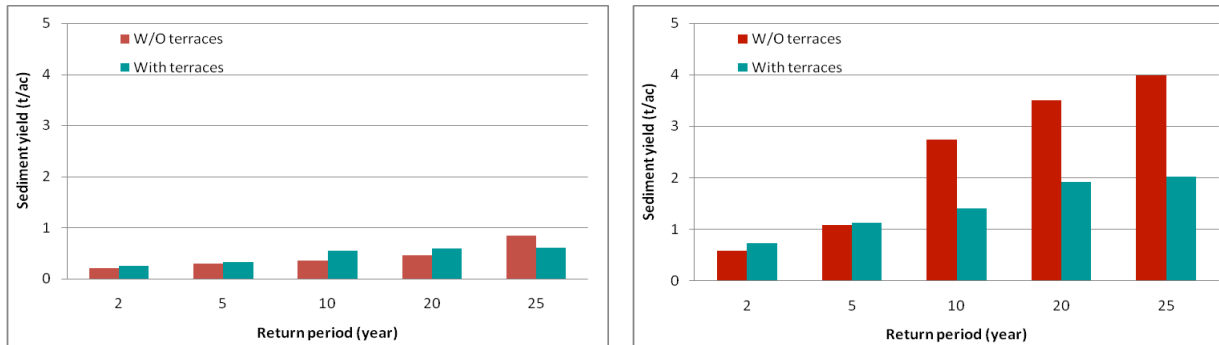
Figure 4. Performance of filter strips for site 2 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.



(a)

(b)

Figure 5. Performance of terraces for site 1 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.



(a)

(b)

Figure 6. Performance of terraces for site 2 under a corn-soybean rotation with (a) no-till and (b) chisel-plow during the extreme storm events.

October 1-December 31:

During the fourth quarter of 2008, we continued our simulation and assessment of the impact of conservation practices on soil erosion and water quality on Iowa's agricultural land. Nine ILF or ISU Research and Demonstration Farms were used to quantitatively evaluate the cost effectiveness of various conservation practices in different regions. These farms represent the typical soil types and slope ranges within six Iowa regions: Northwest, Central Des Moines Lobe, Northeast, Southern Iowa Plains, Loess Hills, and Heavy Till Plain. Production costs, yield return, and the value of eroded soil were included in the economic analysis. The results will be used to produce field day worksheets and a potential peer-reviewed paper.

At the 2008 Conservation Districts of Iowa Conference, Helmers and Comito presented the conservation videos. Helmers presented on effective buffer design in a concurrent session entitled "Buffers: Not Just Along Streams Anymore." The presentation highlighted buffer design and recent results from a buffer study in Jasper County, partially funded by the Iowa Department of Agriculture and Land Stewardship.

At the 2008 Integrated Crop Management Conference, Dec. 10-11, Helmers gave a presentation "Impacts of Extreme Precipitation Events on Performance of Conservation Practices." Hanna gave a presentation on "Tillage Considerations on Previously Flooded Soils." The full paper of each presentation was published in the 2008 ICM proceedings.

Hanna and DeWitt visited with Andy Goodman, Executive Director of the Iowa Nebraska Equipment Dealers Association, regarding potential for interaction with ILF.

ECONOMICS COMPONENT (Duffy and Herringshaw)

January 1-March 31:

We created new templates to summarize the cooperator field operations and cost data. The 2006 data was also organized for RUSLE2 soil loss and energy use calculations. In February, we met with Barbara Stewart of NRCS, to learn how to use RUSLE2 to analyze erosion potential for the soil types and practices of each ILF cooperator. To date we have processed 12 cooperators through RUSLE2. A few of these are awaiting confirmation from the cooperator before being released. Thus far we have finished the economic analysis for 21 of 27 cooperators – we are awaiting data for the remainder. We met with the ILF communications team to develop an appropriate format for handouts to summarize the economic and erosion data for distribution at field days and other events. We anticipate using multiple formats depending upon the need for the various venues. During the quarter we also made a presentation at the cooperators meeting. We are continuing to work on a paper calculating the value of a ton of soil saved.

Our plans for the coming quarter are to complete the economic analysis for all the cooperators. We will complete the RUSLE2 analysis for as many of the projects as possible. In addition, we hope to complete the work on valuing soil loss.

April 1-June 30:

Andy Herringshaw has generated templates for economics analysis of full farm operations. Year 2006 data was organized for full rotation RUSLE2 calculations to be performed this year. Barbara Stewart of NRCS had met with us to review procedures for RUSLE2 analysis in February. We now are using standard practices that will make our results valuable to predict results on other sites.

Economic analyses have been completed for 21 cooperators; we are awaiting data for five additional sites, and one cooperator has incomplete information. As economic analyses are finished, we are presenting them to cooperators for feedback and confirmation of activities before continuing with a RUSLE2 analysis.

To provide content for the ILF website, we created economic summaries for 15 cooperators. We are building templates to summarize erosion and economic data. We are also modifying these for field day handouts and other presentations.

Dr. Duffy began his sabbatical in June.

July 1-September 30:

Herringshaw gave a 30-minute presentation on the economics of no-till practices at the Sept. 4 field day at the Nashua ISU Research farm. Approximately 120 were in attendance for the field day. Direct results from 2006 and 2007 were discussed, as well as NRCS statistics of no-till usage and climate exchange programs that can increase returns to conservation tillage practices. ILF Cooperators Collin Jensen and Frank Moore were in attendance and lent their expertise for technical questions after the talk. The farmer-to-farmer network was enhanced by this sharing of academic knowledge, with follow-up technical discussion with producers.

We have fulfilled several requests for information about reduced tillage economics from the general public. These were generally seeking more aggregate information than is available from the individual cooperators on the ILF website. Summary documents and data prepared for the Nashua field day were made available to them. Some summary data was presented at the June 2 meeting, but feedback received and further analysis found it to be lacking in clarity.

Seeing the public demand for this information, I will be exploring the best way to aggregate data into a more understandable format to compare tillage practices.

October 1-December 31:

During the fourth quarter of 2008, the economics team met with Dean Lemke of IDALS and John Myers of NRCS to discuss the “value of a ton of soil” analysis that had been worked on in previous quarters. This project was put on hold when concerns regarding this analysis were raised at the June 2nd steering committee meeting. With Dr. Duffy’s return from sabbatical, we were able to meet with these representatives as well as Al-Kaisi and Helmers, to agree on the path that this analysis should take and to update some underlying assumptions that were questioned on June 2nd. A rewrite of the original paper is underway and should be ready for further discussion in the next quarter.

The economics team has updated the background data for the ILF cooperator economic analyses, and will be ready to expediently publish economic results when cooperator summaries are received.

EVALUATION/SOCIOLOGY COMPONENT (Lasley and Comito)

January 1-March 31:

The Sociology component of ILF had a busy winter quarter. We participated with Dr. Helmers in water quality discussion groups throughout the state. We presented to the state House and Senate Agriculture Committees in Des Moines. We continue to develop our relationship with Drs. Lois Wright Morton and J. Arbuckle. In March, Arbuckle, Wright and Comito were awarded a grant from Iowa DNR entitled: “Iowa Learning Farm Program Evaluation of the State Revolving Fund Loan Programs for Agricultural Best Practices”. In March, Wright submitted to the USDA a 406 grant proposal, “Developing Local Leadership and Extension Capacity for Performance-driven Agricultural Environmental Management”. If awarded the grant, it will become a partnering project within Iowa Learning Farm to further expand our watershed community organization work. Comito was awarded a District Initiative grant to develop five videos on conservation topics that will be used by SWCD for outreach and education.

In addition, Comito sent out follow-up evaluations to all attendees at 2007 ILF field days. The purpose of the follow-up evaluation was to discover what actions, if any, people took as a result of the information gained at our field days. We had an excellent response to the follow-up evaluations and the results are attached to this report.

The following is a highlight of Comito’s activities over the last three months:

January 2008

- Met with Jerry DeWitt, Elaine Ilvess and Dean Lemke to discuss issues pertaining to ILF and the residue management initiative
- Participated in coordination meetings for January 24 Capitol Rotunda event.
- Staffed booth at the January 24 Capitol Rotunda Conservation Day event in Des Moines.
- Held discussion group with NRCS Area 2 staff in Iowa Falls.
- Developed and sent out follow-up evaluation form for last summer's field days.
- Continued work with communications team to increase the outreach & education venues for winter, including five winter water quality meetings.
- Helped organize the January 15 ILF cooperator meeting.
- Prepared evaluation report on ILF activities for 2007 to be presented at ILF steering committee.
- Meet with Reiman Gardens staff to discuss becoming an ILF Conservationist partner.

February 2008

- Coordinated the February ILF steering committee meeting.
- Monitored evaluation of ILF activities.
- Worked with Dr. Wright on her presentation to steering committee and her USDA 406 grant proposal and we continued to develop ILF's water quality outreach component.
- Wrote and received a District Initiative grant to create five more ILF conservation videos.
- Conducted, along with Helmers and Lundvall, five water quality meetings throughout the state.
- Helped coordinate ILF presentations in front of Iowa's House and Senate agriculture committees.
- Assessed follow-up evaluations and submitted a report to ILF steering committee (see attached report).
- With Dr. Helmers, presented insights from water quality discussion groups at Iowa Water Conference in Ames.

March 2008

- Helped Brown and communications team with website development and overall outreach and education, preparing for the crop season.
- Worked on creating 5 transcriptions of the ILF water quality discussion groups so that they can be analyzed and a report can be written for May Steering Committee meeting.
- Began work on ILF videos project.
- Continued with overall coordination of project with outside agencies.
- Taught Paul Lasley's Agriculture in Transition class on March 25. 100 students in attendance; discussed Culture of Conservation and the Iowa Learning Farm.
- Helped with the development of the ILF 319 proposal.

April 1-June 30:

The Sociology component of ILF had a good second quarter. We have almost completed the NRCS listening sessions with Dr. Helmers. Drs. Wright Morton and Comito are working on analyzing the transcripts from the statewide water quality meetings and the NRCS listening sessions. Through Wright Morton's efforts, the Heartland Project has contributed \$2,000 to ILF to pay for the transcription of the listening sessions. A report on the findings will be presented at an upcoming steering committee meeting. In March, J. Arbuckle, Wright Morton and Comito were awarded a grant from Iowa DNR entitled: "Iowa Learning Farm Program Evaluation of the State Revolving Fund Loan Programs for Agricultural Best Practices." The months of May and June were spent designing the survey instrument.

In addition, Comito attended several ILF events with the purpose of evaluation and photography. ILF and the residue matters committee will use the photos, taken at various farms, for outreach. Helmers, Lundvall and Comito attended a meeting with ILF Conservationist Norm Lust to discuss ways ILF can be more involved in their Heritage Farm in southern Iowa.

The following are highlights of Comito's activities over the last three months:

April 2008

- Helped coordinate the individual ILF team member meetings on April 23 with Jerry DeWitt, Elaine Ilvess and Dean Lemke to discuss issues pertaining to future of ILF.
- Held two discussion groups with NRCS area staff.
- Continued work with communications team to increase the outreach & education venues for spring.
- Presented "Building a Culture of Conservation" to Des Moines Water Works staff, 30+ people were in attendance.
- Presented with Helmers to a gathering of NRCS staff at Fairfield, 120 people in attendance.
- Met with ILF video production team.
- Gathered ILF video material and worked on video scripts.

May 2008

- Helped coordinate the May ILF steering committee meeting at Farm Bureau.
- Monitored evaluation of ILF activities, attending ILF rainfall simulator events.
- Worked with Drs. Arbuckle and Wright Morton on the evaluation of State Revolving Fund Loan Programs.
- Held listening session with NRCS field staff.
- Meet with the communications group of the Residue Management group
- Met with ILF video production team.
- Gathered ILF video material and worked on video scripts.
- Began assessments of water quality listening sessions and NRCS listening groups with Wright Morton.
- Took photographs of Steve Berger's farm, cover crops, to be used for ILF outreach.

June 2008

- Helped Brown and communications team with overall outreach and education, preparing for the Farm Progress Show.
- Continued analysis of listening session transcriptions to report at upcoming steering committee meeting and so that material can be utilized in video scripts.
- Attended an Iowa Heritage Farm meeting with ILF Conservationist Norm Lust.
- Completed three of the five ILF video scripts.
- Continued with overall coordination of project with outside agencies.
- Gathered ILF video material and held ILF video production team meetings.
- Worked on music for ILF video project.
- Monitored evaluation of ILF activities, including two field days.
- Took photographs with DeWitt for use in ILF outreach.

July 1-September 30:

The Sociology component of ILF had a good third quarter. We completed the NRCS listening sessions with Matt Helmers. Lois Wright Morton and Comito finished analyzing the transcripts from the statewide water quality meetings and the NRCS listening sessions. The summary of the statewide water quality meetings will be included in the evaluation report to be released later in October. We had a good return on the Arbuckle, Wright Morton and Comito mailed survey for the IA DNR project entitled: "Iowa Learning Farm Program Evaluation of the State Revolving Fund Loan Programs for Agricultural Best Practices." We will be working on the report for that project after Arbuckle and Holmes complete the NRCS listening sessions. Wright Morton received her USDA watershed project and Comito consulted with her on its relationship to ILF.

In addition, Comito attended several ILF events with the purpose of evaluation and photography. Comito's primary focus in July and August was to handle the day-to-day management of ILF while DeWitt was traveling. Starting the second week of August, one-third of Comito's time was directed toward teaching a Sociology class for Iowa State. The Sociology department covered her salary to teach this class.

The following are highlights of Comito's activities over the last three months:

July 2008

- Held final discussion group with NRCS area staff.
- Continued work with communications team to increase the outreach & education venues for spring.
- Worked with Drs. Arbuckle and Wright Morton on the evaluation of State Revolving Fund Loan Programs.
- Consulted with Wright Morton on the USDA Watershed project.
- Met with ILF video production team.
- Helped with management of ILF.
- Helped Brown and communications team with overall outreach and education, preparing for the Farm Progress Show.
- Helped coordinate the field day at Rick Juchems' farm
- Continued to finish ILF video scripts, gather ILF video material and worked on including others in the work.

August 2008

- Monitored evaluation of ILF activities, including ILF rainfall simulator events.
- Worked with Drs. Arbuckle and Wright Morton on the evaluation of State Revolving Fund Loan Programs.
- Consulted with Wright Morton on the USDA Watershed project.
- Continued to finish ILF video scripts, gather ILF video material and worked on including others in the work.
- Worked on music for ILF video project.
- Completed assessments of water quality listening sessions.
- Attended field day and took photographs.
- Continued with overall coordination of project with outside agencies.
- Attended a meeting with key folks from ILF funding agencies to discuss a Vision for 2010
- Coordinated the hiring of the conservation farm liaison position for the CIG

Sept 2008

- Monitored evaluation of ILF activities, including ILF rainfall simulator events.
- Worked with Drs. Arbuckle and Wright Morton on the evaluation of State Revolving Fund Loan Programs.
- Consulted with Wright Morton on the USDA Watershed project.
- Continued to finish ILF video scripts, gather ILF video material and worked on including others in the work.
- Worked on overall evaluation of ILF summer activities.
- Coordinated the packaging and outreach of ILF Video project
- Participated in January 2009 Conservation Partnership Day's organizational group
- Gave presentation on "Culture of Conservation" at the Watershed Project Coordinator Meeting at Lake Darling.

October 1-December 31:

Comito and the communications team introduced the ILF "Culture of Conservation" video series at the Soil and Water Conservation Districts Annual Conference in November. To prepare for this, Comito, Jean McGuire and Jon Anderson produced five 7-10-minute videos on creating a culture of conservation. Much work and preparation went into launching these videos. New materials were developed and several meetings were held to work out the nature of the program. During this time, Comito also met with sociologist Lois W. Morton, to help develop more ideas for on-going water quality work and use of the NRCS and farmer listening sessions held in 2008. Comito also continued to monitor the evaluation of ILF events. Comito and DeWitt were featured speakers on the Iowa Public Radio program "Talk at 12" to promote videos. Comito also helps with the coordination of outside grants—CIG and Performance Track.

The following is a general breakdown of Comito's activities over the last three months:

October 2008

- Met with Matt Helmers, Jamie Benning, Lois W. Morton & performance track group to discuss ILF involvement
- Finished up “Culture of Conservation” video series to prepare for CDI conference
- Worked with C. Brown on packaging of Culture of Conservation video series
- Worked on development of educational/outreach material relating to “culture of conservation”
- Reviewed evaluation materials and presented findings to steering committee
- Participated in coordination meetings for January 28 Capitol Rotunda event
- One-third of my time in October was spent teaching for Sociology department; the buy-out of my time was applied to video project

November 2008

- Helped coordinate the ILF steering committee meeting
- Monitored evaluation of ILF activities
- Continued work on development of material relating to “culture of conservation” video series
- Continued work with communications team to increase the outreach & education venues for winter, including five winter DNR listening sessions
- Completed work on “Culture of Conservation” video series and worked with C. Brown on SWCD Annual Conference
- Meet with performance track group, Jamie Benning to coordinate efforts with ILF
- Meet with Erin Harpenau to discuss CIG and its interplay with ILF
- Participated in coordination meetings for January 28 Capitol Rotunda event
- One-third of my time in November was spent teaching for Sociology department; the buy-out of my time was applied to video project

December 2008

- Worked with ILF communications team on expansion of ILF Conservationists program
- Worked with ILF communications team on distribution of ILF “Culture of Conservation” video series
- Helped Brown and communications team with several conference displays
- Worked on Feb ILF Cooperators meeting (which included partners, farmers, conservationists, ISU faculty and staff)
- Participated in coordination meetings for January 28 Capitol Rotunda event
- One-third of my time in December was spent teaching for Sociology department; the buy-out of my time was applied to video project

OUTREACH COMPONENT (Lundvall and Brown)

January 1-March 31:

John Lundvall and Carol Brown continue the outreach efforts of the ILF project. With regular communication between team members, cooperators, agency representatives and the general public, awareness of the project continues to rise.

Events:

The Iowa Learning Farm was represented at several events this quarter, either by presenting at conferences or workshops, or staffing display booths. Events include:

- Practical Farmers of Iowa Annual Meeting, Des Moines, Jan. 11-12 (ILF booth/display)
- ILF Winter Cooperator Meeting, Ames, Jan. 15. All cooperators and conservationists in attendance (22) were filmed in individual interview sessions for future use in various outreach capacities such as website, print material and videos. Brown transcribed all the interviews into Word documents for use in print material.
- Legislative Day, Des Moines, Jan. 24 (ILF booth/display)
- Beginning Farmer Conference, Ames, Jan. 26 (ILF booth/display)
- Iowa Water Monitoring Conference, Ames, Feb. 25-26 (ILF booth/display)
- Iowa Water Conference, Ames, Feb. 26-27 (Helmers and Comito program presenters; ILF booth/display)
- Iowa Learning Farm was a sponsor for Operation Strip-Till, Fort Dodge, a one-day seminar introducing a plan for farmers to try strip-tilling without making a complete commitment. ILF Cooperator Dave Nelson (Smeltzer Trust Farm), Denis Schulte (NRCS district conservationist) and Doug Seltz (Webster Co. SWCD commissioner) are coordinating a Webster County program that will provide a dedicated driver, guidance-equipped tractor, and strip-till implement that will allow farmers to try strip-till on some of their acres for a minimal fee (covering cost to lease equipment). Details are in attached news release.

News releases:

- *Wallaces Farmer* January, February and March articles (web links below)
<http://magissues.farmprogress.com/WAL/WF01Jan08/wal019.pdf>
<http://magissues.farmprogress.com/WAL/WF02Feb08/wal037.pdf>
<http://magissues.farmprogress.com/WAL/WF03Mar08/wal004.pdf>
- Strip-Till Seminar news release
- ILF Conservationist “hometown” news releases
- “Conservation Minute” radio spots were started again in January. Brown and Lundvall work with campus ILF staff to craft “CM” scripts that complement monthly *Wallaces Farmer* articles. Lundvall has recorded 10 spots during the January-March reporting period. The one-minute spots are recorded on the ISU campus for weekly distribution to statewide radio stations via ISU Extension.

Web site:

Web designer Liisa Jarvinen has been redesigning the entire ILF website with input and content supplied by Brown and other team members. Brown has written individual profiles for the cooperators who were interviewed last summer. Individual agronomic and economic data has been converted for web usage and will be posted on the cooperators’ personal profile pages. The goal for launching the new site is April 2008.

Video distribution/viewing:

The rainfall simulator video, created for Matt Helmers, is shown during private and commercial pesticide applicator license training. This video has been shown to over 8,000 people to date, and by the end of the training period projected viewers will be around 17,000.

The video “Building a Culture of Conservation: Iowan to Iowan” has been shown to over 100 ISU students in agriculture classes. Conservation Districts of Iowa mailed a copy of the video to each SWCD office (100 copies) in March for commissioner usage. CDI also uses the video as a training tool.

Print material created:

- A follow-up survey to registered attendees of all 2007 ILF field days was printed and mailed in January.
- Packet of materials for new ILF Conservationists prepared for Jan. 15 meeting. Non-attendees were mailed packets and polo shirts.
- Year in Review document for 2007 was printed for use at cooperator meeting, steering committee meeting and Legislative Day event.
- One page overview of the ILF project was developed for Legislative Day event.
- Winter 2008 quarterly newsletter printed and mailed Feb. 1. Email subscribers received theirs electronically Feb. 4.

April 1-June 30:

The months between April and June have been considered planning months for the summer ahead. Lundvall and Brown worked to schedule events and prepare materials for them as well as for the rainfall simulator. Listed below are the upcoming summer events for ILF and the rainfall simulator.

Since April 1 the following events have taken place or are being planned—

- Field Day, June 11, Nolte – Muscatine County
- Field Day, June 16, Eklund – Webster County
- Field Day, June 17, Western Iowa No-till Field Day – Minden
- Field Day, July 1, Northeast Iowa No-till Field Day – Fayette County (Collin Jensen)
- Field Day, July 10, ILF Conservationist Tom Wagner farm – O’Brien County
- Field Day, July 29, Juchems – Butler/Bremer County SWCD event
- Field Day, August 5, Smeltzer Trust – CCA event
- Field Day, August 6, Smeltzer Trust – Operation Strip-till
- Farm Progress Show, August 26-28 – Strip Tillage demo

Rainfall simulator has appeared--or is scheduled to appear--at:

- 12 county fairs
- Des Moines and Cedar Rapids (flood clean-up permitting) farmers’ markets

- Reiman Gardens (Ames), Des Moines Botanical Center
- Five Watershed events
- Iowa Soil Commissioner's Tour
- Nine youth events, including the Iowa Children's Water Festival
- Field Days: June 11, 17; July 10, 29; Aug. 5, 6
- Farm Progress Show: August 26-28

Other items of note:

- Jerry DeWitt presented to two Master Conservationist groups in April, Spirit Lake (12 attendees) and Polk County (25 attendees).
- The rainfall simulator (and ILF exhibit) was featured at a women's landowner event in East Pottawattamie County on April 22.
- The new ILF website was launched on April 30. Additions and updating to the new site are ongoing.
- The Iowa Learning Farm had an exhibit at the Iowa Farm Bureau's Conservation Conference on June 25.
- Iowa Learning Farm "Conservation Minute" radio spots are ongoing. Brown and Lundvall write and record these spots for weekly distribution to statewide radio stations via ISU Extension.
- In April, Brown mailed a letter to all SWCD commissioners (489) encouraging them to use the ILF video "Building a Culture of Conservation" located in their local SWCD office.
- Brown has been meeting regularly with the Residue Management campaign group, particularly the communications subgroup. They are preparing messages and visuals for the campaign. The group includes representatives of ILF partner organizations and commodity groups.
- Lundvall has also been meeting formally and informally with the planning committee for the two field days at the Smeltzer Farm this August. He met with them via teleconference on June 5 and is in regular contact with staff from Webster Co. NRCS, Extension and Brokaw Supply. ILF Cooperator Dave Nelson (owner of Brokaw Supply) attended the West Liberty (Nolte) and is on the agenda for the O'Brien County field day (Wagner) on July 10. He talked about the program "Operation Strip Till." He mentions how it began and how the program works. His hope is to inspire others to begin similar programs in their areas.

July 1-September 30:

Many outreach events were held this summer starting in June with several ILF field days and culminating with the Farm Progress Show at the end of August. The rainfall simulator has been demonstrated at several September events and even has several bookings in October. Highlights for this quarter include:

Since July the following events have been held—

- Field Day, July 1, Northeast Iowa No-till Field Day – Fayette County (Collin Jensen)
- Field Day, July 10, ILF Conservationist Tom Wagner farm – O'Brien County
- Field Day, July 29, Rick Juchems home – Butler/Bremer County SWCD event
- Field Day, August 6, Smeltzer Trust Demonstration Farm – Operation Strip-till
- Farm Progress Show, August 26-28

Since July the rainfall simulator has appeared at:

- 9 county fairs
- Des Moines farmers' market
- Des Moines Botanical Center
- RAGBRAI
- Six youth events
- Seven different workshops for water quality, tillage, and education
- Iowa Lakes Community College Farm and Field Expo near Emmetsburg on September 4
- Field Days: July 1, 10, 29; Aug. 6
- Farm Progress Show: August 26-28

Other items of note:

- Farm Progress Show: ILF had two separate exhibits at the FPS, with an additional display in the ISU hoop building. The rainfall simulator was located just outside "Conservation Central" tent and was manned by Helmers, Lundvall, IDALS and NRCS staff. "Operation Strip-till" was outside the ISU building. The exhibit included a strip-tiller furnished by Brokaw Supply, which had been pulled through the sod the day before the show. Show attendees could touch the tilled soil and the equipment to learn more about this technique. ILF cooperators and conservationists helped staff the exhibit including: Gary and Dave Nelson (Gary was there 8 a.m.-5 p.m. all three days), Richard Mason, Doug Nolte, Thad Bridges, Glen Stenzel, Rick Juchems, Craig Fleishman, Max Schmidt, Tom Wagner, Rod Pierce, and Mark Ingwersen. ISU Extension staff also helped: Greg Brenneman, Jim Fawcett, Virgil Schmitt, John Holmes, and Aaron Saeugling. ILF team members Helmers, Zhou, Lundvall, Al-Kaisi, Benning, Hanna also helped staff Operation Strip-till.
- Iowa Learning Farm "Conservation Minute" radio spots are ongoing. Brown and Lundvall write and record these spots for weekly distribution to statewide radio stations via ISU Extension.
- Brown has been meeting regularly with the Residue Management campaign group, particularly the communications subgroup. They are preparing messages and visuals for the campaign. The group includes representatives of ILF partner organizations and commodity groups.

Web site (Brown):

Brown has worked with the Iowa State University IT staff on the monitoring of the ILF website. The IT department removed the internet "spiders*" from the website tracking documentation. The removal of spiders reduces from the statistics the actual number of hits or visits, but it gives a more accurate picture of how many people actually visit the site.

I am including the number of hits from May, which is the first month of the new web design (new design went live on April 29).

ILF web site hits per month:

May = 5,562

June = 3,540

July = 5,181

August = 5,009
September = 4,251

One item to note: the most-often downloaded file on the ILF website continues to be the same each month—the Winter 2006 ILF newsletter. This issue contains articles about cover crop selection, and buffers and grassed waterways.

*From Answers.com: “An Internet spider is a program designed to "[crawl](#)" over the World Wide Web and retrieve locations of Web pages. It is sometimes referred to as a webcrawler. Many search engines use webcrawlers to obtain links, which are filed away in an index. When a user asks for information on a particular subject, the search engine pulls up pages retrieved by the Internet spider.”

October 1-December 31:

During this final quarter of 2008, outreach has been primarily focused on the announcement and distribution of the new video series, but also preparing for and attending winter conferences. Between November 2008 and March 2009, ILF will be represented at nine conferences throughout Iowa and the Midwest, either by an exhibit booth, presenter or both.

A news release announcing Erin Harpenau and her work with the CIG grant was distributed on Oct. 29. Also, articles were submitted to *Wallaces Farmer* each month, but October’s submission did not run.

Rick Juchems served as a speaker at the Leopold Center sponsored conference “Learning from the Floods of 2008” held in Ames December 8. As a result of this, he was featured in the Des Moines Register on December 14.

Also in December Brown prepared and ordered promotional items including long sleeved shirts, mugs and water bottles.

Web site:

ILF website hits per month this quarter:

- October = 4,323
- November = 4,868
- December = 5,325

The links for each new video were posted on the homepage in December. Brown is working with Harpenau on updating Conservationist bios and photos for their individual web pages. These went live in November. We are still gathering missing photos and bio information as she meets with them individually.

OTHER PROJECTS:

Residue Management:

Iowa Learning Farm Project

Oct. 1-Dec. 31: As shown on the chart for this quarter, there have been several meetings about this in these three months. These meetings consist of representatives of all ILF partner agencies and organizations and reps from Iowa Soybean Association, Iowa Corn Growers Association, Iowa Natural Heritage Foundation and Iowa Agribusiness Association. This group is led by Bill Ehm (DNR) and Jerry DeWitt to implement a marketing plan to build awareness and education about the importance of residue management. The group has been meeting for some time, but is approaching the roll out of this campaign to launch this spring in northwest Iowa with the aid of Ag Partners, Albert City. DeWitt, Brown and Harpenau have been representing ILF at these meetings.

ILF-Practical Farmers of Iowa (PFI) Cover Crop Working Group:

New cover crop demonstrations were established by Jamie Benning with existing ILF Cooperators Bill Buman (Harrison Co.), Randy Caviness (Adair Co.), and Rick Juchems (Butler Co.), along with three Practical Farmers of Iowa (PFI) cooperators identified by PFI Program Specialist Sarah Carlson in Greene, Grundy, Guthrie counties. Baseline soil quality samples were collected from each of the six demonstration sites, and replicated rye cover crop/no cover crop treatment strips were established at each site. An ILF/PFI Cover Crop Working Group--including ILF and PFI team members, National Soil Tilth Laboratory researchers, Dr. John Sawyer of the ISU Agronomy Department, and Iowa producers who have successfully incorporated cover crops on their farms (ex. Washington Co. farmer and ILF Conservationist Steve Berger)—has been established to serve as advisors for the project. The working group had their first formal meeting in December.

Iowa Learning Farm Video Project:

April 1-June 30:

Work on the five videos began in March. A team of Matt Helmers, Jon Anderson, John Lundvall and Jean McGuire have meet every three weeks to guide production. Video has been collected of key rain events, growing season events and other activities. Three of the five video scripts are completed. All five scripts will be completed by the end of July. Comito has been the lead scriptwriter with the assistance of Lois Wright Morton, Jean McGuire, Matt Helmers and the rest of the video team, including Laura Miller. Carol Brown will help develop the supporting materials that will be distributed with the videos. The basis of all five video scripts comes from a series of listening sessions conducted by Comito and Helmers over the last six months.

July 1- Sept. 30:

Work continued on the five videos. A team of Matt Helmers, Jon Anderson, John Lundvall and Jean McGuire met every three weeks to guide production. Video has been collected of key rain events, growing season events and other activities. Also interviews were done with representatives of SWCD, NRCS, DNR and IDALS. All five video scripts were completed. Comito has been the lead scriptwriter with the assistance of Lois Wright Morton, Jean McGuire, Matt Helmers and the rest of the video team, including Laura Miller. Carol Brown will help develop the supporting materials that will be distributed with the videos. The basis of all five video scripts comes from a series of listening sessions conducted by Comito and Helmers over the last six months. The five videos will be complete to distribute to SWCD commissioners at the annual conference in November.

Oct. 1-Dec. 30:

The video series was completed during this period. Packaging materials for the DVDs were written and printed in October and a display banner was developed for the November CDI conference. A news release announcing the videos was sent the week of Nov. 17. Packets containing the videos were given out during the annual CDI conference to representatives from counties in attendance. The other packets were mailed the week of Dec. 1, for a total of 100 videos distributed. All SWCD offices now have at least one copy of the videos.

Videos were sent to all County Extension offices (100) on Dec. 3. Comito and DeWitt were guests on Iowa Public Radio's "Talk @ 12" with Katherine Perkins on December 2, promoting the video. Brown submitted newsletter articles about the videos to "Clean Water Starts with Us", which ran in the winter 2008 issue (December); to the IDALS Inquirer internal newsletter and the Leopold Center newsletter as well.

Approximately 40 personal requests for the DVDs were received in December, and we are tracking where they heard about them. Brown mails the DVD copies out upon request. Many educators have requested copies for their classrooms and they will be receiving them in the near future.

ILF Conservationists:

Jan. 1-March 31:

As part of the winter cooperator meeting, the new group of participants, ILF Conservationists, met for the first time. They spent a portion of the day getting to know the cooperators and ILF team members, and participated in a break out session solely for their group. Their introduction ran in the February issue of *Wallaces Farmer* and the ILF Newsletter. Individual news releases were sent to their respective hometown newspapers. The Conservationists who could not attend the January meeting were mailed their materials and shirt.

ILF Conservationists this quarter include:

- Steve Berger, Wellman
- Jon Gisleson, Floyd
- Bill Hammitt, Portsmouth
- Mark Ingwersen, Spirit Lake
- Jody Kerns, Edgewood
- Laura Krouse, Mount Vernon
- Barry Kusel, Manning
- Norm Lust, New Virginia
- Dave Ruden, Dubuque
- Dave Van Waus, Colo

April 1-June 30:

Since the initial January meeting, three Conservationists have been added: Thad Bridges (Elliott), Craig Fleishman (Minburn), and Tom Wagner (Primghar). Bridges and Bill Hammitt participated in a producer panel at the Western Iowa No-till Field Day, June 17. Wagner is hosting a field day at his farmstead on July 10.

Comito, Helmers and Lundvall met with Norman Lust and the Southern Iowa Agricultural Heritage Foundation group on June 9 to gather information about their organization and to explore ways in which ILF could be involved.

July 1-Sept. 30:

New program assistant with the Iowa Learning Farm, Erin Harpenau, was hired in August and she began her appointment on September 2. Harpenau will be coordinating soil conservation education with farmers near the POET plant. Her work will focus on soil quality concerns that arise from corn cob harvest for cellulosic ethanol production. She will also be overseeing the ILF Conservationists, working with them to become more involved with the project.

Oct. 1-Dec. 31:

Erin Harpenau has maintained contact with ILF Conservationists through several means this quarter. She delivered signs to four Conservationists and sent out multiple informational letters. A copy of the new video series was also sent to each Conservationist to use at speaking events. To increase Conservationist activities, she has contacted local Rotary and Kiwanis clubs to inform them of the ILF spokesperson in their area. ILF Conservationists were all willing to get more involved and increase participation in public speaking events.