

FINAL REPORT  
LEPF Grant 03-18

TITLE

*Implementing Innovative Farming Practices That Reduce Soil Erosion*

Project Sponsor

Conservation Action Project  
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Authorizing Officer  
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Special Thanks

Special thanks are due to the agricultural agencies, agriculture related businesses and individuals who helped make this worthwhile effort succeed in providing quality data that would be shared throughout the agricultural industry.

Lake Erie Protection Fund

Generous support from the Ohio Lake Erie Commission through the Lake Erie Protection Fund made the concept of sharing equipment and information through farmer conducted field demonstrations possible.

Local Agricultural Professionals

The following local dealers and consultants assisted in securing farmers for the program and in providing valuable information regarding fertility practices used on the farms:

Edon Farmers Cooperative, Edon, Ohio - John Hug Manager  
Gerald Grain Center, Ridgeville Corners, Ohio - Chris Bonner Manager  
Lucky Farmers, Bradner, Ohio – Bill Houtz Manager

Cooperating Farmers

The following farmers conducted demonstrations, provided field and yield data used to evaluate the demonstrations and the data generated:

Larry Bischoff, Napoleon	Ray Conkey, Jr., Hicksville	Gary Derck, Antwerp
Rick Fruth, Holgate	Jim Joost, Sherwood	Gary Mavis, Edgerton
Scott Mavis, Edgerton	Art Michaelis, Defiance	Tim Miller, Sherwood
Steve Moore, Woodburn	Bill Myers, Oregon	Lawrence Onweller, Delta
John Rethmel, Defiance	Brian Rohrs, Hicksville	Owen Schroeder, Edgerton
Ken Schulze, McClure	Les Seiler, Fayette	Phil Shaffer, Cygnet
Louis Shininger, Ney	Richard Snyder, Delta	Dan Vetter, Hicksville

Summer Intern Field Scouts

The CAP field scout program demonstrated the importance of scouting fields to detect conditions that effect yield. We appreciate the excellent work done by these college students: Mike Vorwerk and Andy Westhoven.

Consultants

Agricultural consultants provided services, advice and knowledge to farmer clients and to CAP.  
Nester Ag Management, Joe Nester, Owner  
Agronomy First Consulting Services, Tim Barney, Certified Crop Consultant

The 20 farm cooperators were contracted and paid for putting their particular plot into practice during the 2004 - 2005 cropping season.

Each farm cooperator was provided a prototype plot design to follow.

3 summer interns were contracted from agricultural universities to scout and evaluate the plot layout and to record pertinent information to insure quality data could be attained from the demonstrated practice. These plots were scouted on a regular basis looking for conditions that may inhibit quality data.

Soil samples were collected and analyzed on several plots to give a baseline fertility rating for the plot

Harvest data from these demonstration plots have been received and have been processed and evaluated and summarized.

Farm Cooperators provided input on practice to be demonstrated on their farm

2004 weather during the growing season changed the direction of some of the plots and resources were directed to nitrogen fertilizer and how it contributes to agricultural pollutants in the Lake Erie Watershed. Fifteen participants focused on nitrogen rates with one more focusing on over-application of starter fertilizers on corn. One more producer looked at soybean yields in relation to row spacing. Three other producers had unrecoverable plot data due to in climate weather. 2005 proved to be a much better year to do the plots than 2004. We actually had twenty-two participants for the 2005 crop season.

As a result of the two year program many of the participants are changing how they run their tillage and fertility program. Many of them stated that they did not realize how much they were over-applying or how little they knew about the dynamics of their program.

The timing for this project was perfect due to the increased cost of agricultural inputs. These higher costs played an important role in making the demonstrations a normal part of their operation. Changes in practices are more achievable when economic pressures demonstrate a change is necessary to remain profitable.

Through the funding provided for this project, CAP was able to use the information gathered and share it in a public forum at the 2004 Ohio Federation of Soil and Water Conservation Districts annual convention in Columbus, OH as well as at the Conservation Tillage & Technology Conference in Ada, OH in February of 2004. CAP also sponsored field days put on by the Williams County SWCD as well as a field day hosted by the Henry County SWCD and Henry County Extension.

The information gathered was also published in the winter 2005 newsletter which has a circulation of seventeen hundred. The newsletter is attached to this final report.

On the following pages are some tables of the data that was collected.

## 2004 CAP Demonstration Plot Summary

County	Total Pounds Applied Nitrogen lbs N / acre				
	80%	90%	Full	110%	120%
Defiance	119.5		149.38		179.26
Defiance	168	180	195	216	
Defiance	157	172	187		
Defiance	149	163	180		
Defiance	156.55	172.38	188.22		
Defiance	140.42	152.37	164.32		
Defiance	153	168	183	198	
Fulton	151.8	167.8	184.8		
Fulton		153	165	176	
Henry	188	197	215		
Henry	148	162	176		
Henry	206	232	258		306
Paulding	150	164	180	200	
Paulding	134	149	164		
Wood	135	150	195		

Yield in Bushels/Acre At Corresponding Rates				
80%	90%	Full	110%	120%
180.8		180.8		188
164.0	174.0	172.0	177.0	
172.8	175.6	173.2		
182.5	184.4	186.2		
159.9	158.1	166.8		
154.4	155.1	156.0		
158.7	174.6	170.2	190.8	
176.8	182.7	184.0		
	127.8	131.0	133.8	
198.6	202.8	209.5		
164.4	159.3	161.9		
170.8	178.6	179.5		178.5
164.7	166.6	183.1	189.6	
148.6	164.7	171.6		
188.6	197.4	215.2		

Agronomic Plots			
Yield by Treatment Description			
Fall Strip Till with 200# 9-23-30			
Additional Spring Starter on Planter			No Additional
Fulton	Corn	151.7	150.59
Yield by Treatment Description			
Soybean Row Spacing			
Fulton	Beans	7 inch	30 inch
		56.9	58.7

## 2005 CAP Demonstration Plot Summary

County	Total Pounds Applied Nitrogen lbs N / acre			
	80%	90%	Full	110% 120%
Defiance	125	140	156	
Defiance	140	158	175	
Defiance	173	177	188	204
Defiance	158	179	200	
Defiance	183.9	204.8	228.7	
Defiance	196	220	245	
Fulton	139	162	185	
Fulton	151	167	182	187
Fulton	120.4	137.6	154.8	172
Henry	158	183	203	
Henry	152.15	161.1	179	
Lucas	125	135	150	165
Paulding	147	168	189	210
Paulding	179	194	209	
Paulding	179	194	209	
Paulding	179	194	209	
Wood	165	180	204	

Yield in Bushels/Acre At Corresponding Rates				
80%	90%	Full	110%	120%
199.8	198.8	196.8		
176.9	176.4	172.0		
162.2	163.5	160.5	163.9	
191.7	193.4	193.8		
168.4	167.9	170.7		
191.3	192.1	191.8		
159.3	170.5	171.5		
183.2	183.5	184.9	185.2	
183.7	185.1	186.9	187.4	
208.4	205.8	202.6		
208.2	207.1	212.7		
207.7	206.8	209.8	210.6	
194.3	196.6	199.2	200.4	
191.4	190.7	191.0		
184.7	186.7	186.7		
187.0	188.0	190.0		
186.5	191.6	189.8		

### Residue Management Plots Yield by Treatment Description

Crop	Fall Salford RTS Tool		Salford RTS Tool	
	With Chisel Plow	With Manure	Fall	Fall & Spring
Defiance Corn	187.4	176.3	158.3	165.7

### Agronomic Plots Yield by Treatment Description Soybean Row Spacing

County	Beans	15 inch	30 inch
		43.43	46.38

### Yield by Population

County	Beans	90,000	135,000	180,000
		46.32	45.46	48.37

### Yield By Seed Treatment

County	Beans	Cruiser Extreme Pak	Apron Maxim
		26.86	30.7

		Nitrogen Rate & Timing of Application Plot			
Defiance	Corn	Treatment	Pounds Nitrogen	Average Yield	Average Moisture
		20 Gal. Side	60.0	184.63	13.80%
		20 Gal. Side/20 Gal. Late	120.0	194.48	14.30%
		30 Gal. Side/20 Gal. Late	150.0	195.95	14.00%
		30 Gal. Side/30 Gal. Late	180.0	193.48	14.05%
		30 Gal. Side/40 Gal. Late	210.0	198.60	14.10%
		40 Gal. Side	120.0	193.14	14.20%
		40 Gal. Side/20 Gal. Late	180.0	193.66	14.20%
		40 Gal. Side/30 Gal. Late	210.0	202.27	14.10%
		40 Gal. Side/40 Gal. Late	240.0	192.06	13.90%
		50 Gal. Side	150.0	192.76	13.90%
		50 Gal. Side/20 Gal. Late	210.0	199.58	14.13%
		50 Gal. Side/30 Gal. Late	240.0	185.84	15.40%
		60 Gal. Side	180.0	198.90	14.20%
		60 Gal. Side/20 Gal. Late	240.0	192.07	13.80%
		70 Gal. Side	210.0	201.17	13.90%
		80 Gal. Side	240.0	190.33	14.30%

Again CAP would like to thank the Lake Erie Protection Fund for their support in bringing this project to the agricultural personnel that are making the decisions on the land that affects our water resources and natural resources.