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2006 ILLINOIS SOIL CONSERVATION TRANSECT SURVEY SUMMARY

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2006 ILLINOIS SOIL CONSERVATION TRANSECT SURVEY SUMMARY

Introduction

The results of the eleventh statewide Soil Conservation Transect Survey conducted in the spring and early summer of 2006 indicates that Illinois producers are continuing to manage their cropland to minimize soil erosion. The survey, initiated by the Illinois Department of Agriculture (IDOA), involved the cooperation of Illinois' 98 Soil and Water Conservation Districts (SWCD), and the USDA Natural Resources Conservation Service (NRCS). The biennial surveys measure progress in reducing soil erosion to T or tolerable soil loss levels statewide. The tolerable soil loss for most soils is between 3 and 5 tons per acre per year. This is the amount of soil loss that can theoretically occur and be replaced by natural soil-building processes. Reducing soil loss to T is essential to maintaining the long-term agricultural productivity of the soil and to protecting water resources from sedimentation due to soil erosion.

Transect Survey Background

The Soil Conservation Transect Survey provides a snapshot of the current status of soil conservation efforts in Illinois. Survey results provide data on the presence of conservation practices in each county, as well as an estimate of remaining land treatment needs.

Since 1982, the Conservation Technology Information Center, in cooperation with local SWCDs and the NRCS, has conducted an annual survey of tillage practices. During the 1980s, local staff estimated usage of various conservation tillage systems within their county. Although this method required only a small amount of time to complete the survey, it was soon recognized that a different procedure was needed to provide more useful data.

In an effort to improve the quality of the county-level data generated for the annual tillage survey, representatives from the state's natural resource management agencies and organizations met in 1993 and reviewed several survey options. The group recommended a county transect-survey method for use in Illinois. In conducting the transect survey, SWCD and NRCS staff collect data from approximately 450 fields along a random route that intersects each township in the county twice. The survey is conducted on a biennial basis after the crops are planted in the spring. Some counties with a significant amount of small grains conduct an additional survey in the fall to collect data on fall-planted crops.

Information on tillage systems and crop residue amounts is collected at more than 50,000 points across the state. In addition to collecting information on crop residue management and tillage practices, the surveyors also collect data on sheet/rill and ephemeral soil erosion. After the survey is completed for each of the 100 counties in Illinois that conduct a cropland survey, the data is sent to the Illinois Department of Agriculture to be analyzed. Data for each county and the entire state are available on soil loss relative to "T", the presence of ephemeral erosion, and tillage systems used to plant crops.

The transect surveys were conducted annually from 1994 through 2002. In 2002, the survey switched to a biennial format. The eleven (11) years of data have provided an opportunity to analyze some trends in soil loss reductions, tillage systems and ephemeral erosion. A brief analysis of the data is included in the summary tables and narrative that follow.

Soil Savings Trends

Table 1 summarizes soil loss data by T value for 1994 through 2006. The soil loss estimates for 1997 – 2006 were developed using the Revised Universal Soil Loss Equation (RUSLE), which was adopted as the formula for predicting soil loss by the NRCS in 1997. Since 1997, the IDOA has used the revised version of the Universal Soil Loss Equation to estimate soil losses from sheet and rill erosion. The National Resource Inventory (NRI) is conducted by NRCS every five (5) years to measure trends in soil conservation. The NRI provides data that are statistically reliable at the state level. While the Transect Survey data are not

statistically reliable at either the state or county level, the survey provides much detailed information that is useful for local planning and strategy development.

The 2006 survey showed that 85.8% of the points surveyed were at or below T or tolerable soil loss levels. The data collected by the Soil Conservation Transect Surveys and NRIs confirm a very positive trend in reducing soil erosion on cropland to tolerable soil loss levels. The 1994 Soil Conservation Transect Survey, the first ever conducted, estimated that 74.1% of the points surveyed were meeting T. Previous surveys conducted by the NRCS using the USLE indicated that 59.4% of the total cropland acres were at T or less in 1982, 67.7% were at T or less in 1987, 73.6% were at T or less in 1992, and 78.4% of the state's cropland was at, or less than, the tolerable soil loss level in 1997.

The 2006 results also indicate that about 14.2% of the points surveyed were still exceeding tolerable soil loss levels, about the same as the results of the 2000 survey. Only about 4% of the points surveyed exceeded 2T. For most of the survey points at which estimated soil loss was greater than T, estimated soil losses were in the 1- to 2- T category (2 to 10 tons per acre per year). Soil loss on about two-thirds of these points was between 1 and 3 tons per acre above T. With some slight adjustments in management systems to retain more crop residue, these acres could easily be brought to T or below.

Tillage System Trends

The survey also provided information on tillage systems used in planting corn and soybean crops this past spring, and small grain crops last fall. The data for 1994 through 2006 are summarized in Tables 2 and 3. Statewide, the survey showed that 33.1% of corn, soybean and small grain fields surveyed in 2006 were farmed using no-till practices, which leave the soil virtually undisturbed from harvest through planting.

This amounts to a 4% increase over the 29.2% planted by no-till in 2004, and represents the biggest increase from a previous survey since it was first conducted in 1994. The large increase means, for the first-time, no-till is now used to plant more fields than any of the other tillage systems that the survey tracks (conventional, reduced-till or mulch-till).

Another first for the survey results is that no-till soybeans were planted on a majority of the state's acres in 2006. Soybean fields planted by no-till increased from 45.6% in 2004 to 51% this year. This continues an upward trend in no-till planted soybeans that has continued to grow from the 28.6% that was recorded in 1994.

About 16.4% of the fields surveyed were planted with a mulch-till system in 2006. This represents a slight decrease from 2004 mulch-till acres planted. To qualify as mulch tillage, at least 30% of the residue from the previous crop must remain on the soil surface after being tilled and planted. Residue is important because it shields the ground from the eroding effects of rain and helps retain moisture for crops. Mulch-till and no-till are conservation tillage systems because they both leave at least 30% residue on the soil surface after planting. The number of fields with conservation tillage increased from 46.2% in 2004 to 49.6% in 2006.

In 2006, mulch-till soybeans decreased by more than 3 percentage points, from 22.1% of the total soybean fields surveyed in 2004 to 18.7% in 2006. Fields with mulch-till corn increased slightly in 2006 to 13.5% of the points surveyed. Fields with mulch-till small grains remained basically unchanged at 25.3%.

Statewide, 31.2% of the cropland fields surveyed in 2006 were planted conventionally. This is a decrease of more than 2% from 2004. Conventionally planted cropland fields surveyed have generally been on the decline in the past few years. Since 1994, when 46% of the cropland fields surveyed in the state were planted conventionally, there has been a decrease of about 15 percentage points. Most of those fields are now in either no-till or mulch-till forms of conservation tillage.

Approximately 19.3% of the fields surveyed in 2006 were planted with a reduced tillage system. This is about 1 percentage point lower than in 2004. A reduced tillage system retains some crop residues that protect the soil surface from erosion. Although a reduced tillage system does provide some level of soil conservation, crop residues are not present in the amounts necessary to be categorized as conservation tillage.

Ephemeral Concentrated Flow Erosion Trends

Since 1995, surveyors have collected data on ephemeral or gully erosion in surveyed fields. Surveyors identify fields in which ephemeral erosion has occurred or is likely to occur in areas of concentrated surface water flow. This type of erosion requires structural conservation practices, such as grassed waterways, in addition to tillage or other cultural erosion control practices.

In both 1995 and 1996, the Transect Survey documented either ephemeral or gully erosion on 14% of the fields. In 1997, the number of fields increased to 16%. In 1998, the percentage of cropland fields with ephemeral/gully erosion increased to 22%. Heavy spring and summer precipitation was a factor in the increase of ephemeral/gully erosion from 1997 to 1998. In 1999, surveyors noted ephemeral or gully erosion on 18% of the fields. In 2000 and 2001, actual erosion, or potential ephemeral/gully erosion was observed on 22% and 23.6% of the fields respectively. In 2002 and 2004, the number of fields surveyed in which actual or potential ephemeral/gully erosion was observed increased once again to 25.1% and 25.9% respectively. The 2006 survey recorded 24.9% of the fields experiencing ephemeral erosion, which was 1% less than 2004.

Summary

The Illinois Department of Agriculture, local Soil and Water Conservation Districts and the USDA Natural Resources Conservation Service will use the survey data to plan future conservation efforts. The information will be vital in determining the course of action each Soil and Water Conservation District will take to reach Illinois' goal of reducing soil erosion and sedimentation and improving water.

TABLE 3
PERCENT OF POINTS SURVEYED WITH INDICATED TILLAGE SYSTEMS
USED FOR EACH CROP 1994 – 2006

	Conventional	Reduced	Mulch	No-Till	NA/Unknown	Total %
<u>CORN</u>						
2006	47.9	21.9	13.5	16.7	0	100
2004	51.2	21.9	12.0	14.9	0	100
2002	52.9	19.5	10.7	16.9	0	100
2001	49.0	23.5	10.5	17.0	0	100
2000	48.7	23.2	11.5	16.4	0.2	100
1999	56.2	21.3	8.5	13.7	0.3	100
1998	56.7	22.4	8.2	12.5	0.2	100
1997	50.4	22.6	12.3	14.4	0.3	100
1996	47.6	24.7	12.8	14.7	0.2	100
1995	44.3	27.7	11.0	16.9	0.1	100
1994	59.6	14.6	6.9	18.8	0.1	100
<u>SOYBEANS</u>						
2006	13.8	16.5	18.7	51.0	0	100
2004	14.4	17.9	22.1	45.6	0	100
2002	19.2	18.0	18.9	43.9	0	100
2001	14.2	18.9	24.8	42.1	0	100
2000	12.4	19.8	26.0	41.7	0.1	100
1999	16.4	23.2	21.9	38.3	0.2	100
1998	20.5	24.0	19.1	36.3	0.1	100
1997	16.0	22.0	26.3	35.3	0.4	100
1996	25.5	23.2	19.8	31.2	0.3	100
1995	24.3	25.5	17.3	32.7	0.2	100
1994	32.0	23.8	15.5	28.6	0.1	100
<u>SMALL GRAINS</u>						
2006	21.9	17.3	25.3	35.5	0	100
2004	20.7	20.5	25.9	32.9	0	100
2002	16.5	25.2	24.3	34.0	0	100
2001	20.8	18.9	27.9	32.4	0	100
2000	16.9	13.2	21.9	38.2	9.8	100
1999	19.2	16.9	17.5	34.9	11.5	100
1998	21.8	15.2	17.9	33.3	11.8	100
1997	22.0	11.8	22.4	30.4	13.4	100
1996	15.4	20.6	22.5	32.4	9.1	100
1995	19.6	22.0	22.3	28.2	7.9	100
1994	24.6	26.3	16.9	14.2	18.0	100

REPORT 1

Soil Loss Relative to T - Percent and Number of Points Surveyed

COUNTY	<=1 "T"		1-2 "T"		>2 "T"		Total Points
	Percentage	Points	Percentage	Points	Percentage	Points	
Adams	85	627	12	91	3	20	738
Alexander	87	124	8	11	6	8	143
Bond	63	281	26	114	11	49	444
Boone	91	460	6	32	2	10	502
Brown	75	405	17	95	8	43	543
Bureau	99	535	1	6	0	0	541
Calhoun	86	213	6	14	9	22	249
Carroll	84	477	12	68	4	22	567
Cass	96	607	3	17	1	8	632
Champaign	96	581	3	21	1	4	606
Christian	88	475	10	52	3	15	542
Clark	89	443	9	46	2	10	499
Clay	79	561	14	102	6	42	705
Clinton	87	617	11	75	2	16	708
Coles	92	431	7	34	0	2	467
Crawford	57	350	27	163	16	96	609
Cumberland	86	569	11	76	3	18	663
DeKalb	94	453	6	27	0	2	482
DeWitt	89	543	8	50	3	16	609
Douglas	95	483	5	27	0	0	510
Edgar	93	443	6	31	1	3	477
Edwards	75	336	18	79	8	34	449
Effingham	91	564	5	30	4	22	616
Fayette	89	700	9	68	2	19	787
Ford	88	566	8	49	4	24	639
Franklin	64	333	22	114	14	74	521
Fulton	91	564	8	48	2	10	622
Gallatin	73	321	17	76	10	43	440
Greene	80	539	17	115	2	16	670
Grundy	97	477	3	13	1	3	493
Hamilton	78	384	14	69	8	37	490
Hancock	91	484	6	31	3	14	529
Hardin	90	116	2	3	7	9	128
Henderson	91	422	7	34	2	7	463
Henry	83	519	10	64	6	39	622
Iroquois	96	440	3	13	1	3	456
Jackson	72	429	17	102	10	62	593
Jasper	79	492	15	96	5	33	621
Jefferson	62	354	22	125	16	94	573
Jersey	80	360	16	73	4	16	449
JoDavie	83	388	12	55	5	24	467
Johnson	55	106	25	48	19	37	191
Kane	98	421	2	7	0	0	428
Kankakee	99	496	1	5	0	1	502
Kendall	97	505	2	12	0	1	518
Knox	89	360	9	35	2	7	402
Lake	0	0	0	0	0	0	0
LaSalle	97	442	3	14	0	0	456
Lawrence	85	509	11	68	4	21	598
Lee	97	526	2	13	0	1	540
Livingston	90	417	7	34	3	13	464
Logan	96	559	4	21	1	3	583
McDonough	85	430	12	62	3	16	508

McHenry	93	411	6	25	1	3	439
McLean	87	426	13	63	0	2	491
Macon	84	470	14	76	3	14	560
Macoupin	86	436	11	55	3	16	507
Madison	71	281	16	65	13	50	396
Marion	81	433	13	68	7	36	537
Marshall	97	546	3	15	1	3	564
Mason	98	650	1	9	0	1	660
Massac	89	297	7	24	4	12	333
Menard	85	404	14	65	1	7	476
Mercer	89	409	8	39	3	12	460
Monroe	67	238	15	53	18	63	354
Montgomery	86	403	9	44	4	21	468
Morgan	85	673	11	90	3	27	790
Moultrie	94	496	4	20	2	12	528
Ogle	88	528	11	69	1	3	600
Peoria	96	574	3	19	1	5	598
Perry	82	402	12	60	5	25	487
Piatt	93	578	7	42	0	2	622
Pike	70	366	18	95	11	59	520
Pope	91	321	6	21	3	11	353
Pulaski	61	126	14	28	25	51	205
Putnam	95	224	5	11	0	0	235
Randolph	61	375	20	125	19	116	616
Richland	77	424	14	78	9	48	550
Rock Island	80	380	16	76	4	20	476
St. Clair	79	264	14	47	7	24	335
Saline	84	387	12	56	4	19	462
Sangamon	88	443	10	49	3	13	505
Schuyler	83	648	13	100	4	35	783
Scott	95	436	4	19	1	4	459
Shelby	77	684	17	153	5	46	883
Stark	95	566	5	27	0	1	594
Stephenson	87	554	11	67	3	17	638
Tazewell	95	472	4	22	1	3	497
Union	85	403	8	40	7	33	476
Vermilion	86	408	12	56	2	11	475
Wabash	67	342	24	121	9	48	511
Warren	95	443	4	18	1	4	465
Washington	78	567	18	132	3	21	720
Wayne	88	406	8	36	4	20	462
White	87	426	10	47	4	19	492
Whiteside	92	471	6	31	2	12	514
Will	95	324	4	15	1	2	341
Williamson	84	268	10	32	6	19	319
Winnebago	93	697	6	46	1	8	751
Woodford	94	427	5	21	1	4	452
TOTALS	85.8%	43744	10.2%	5198	4.0%	2071	51013

REPORT 2

Corn Field Points Surveyed with indicated Tillage System

COUNTY	CONVENTIONAL		REDUCED-TILL		MULCH-TILL		NO-TILL		Total
	Percentage	Points	Percentage	Points	Percentage	Points	Percentage	Points	
Adams	21	68	31	100	40	129	9	29	326
Alexander	73	33	9	4	11	5	7	3	45
Bond	99	133	0	0	0	0	1	1	134
Boone	78	175	11	24	8	18	3	6	223
Brown	51	93	11	21	15	27	23	43	184
Bureau	4	13	40	134	39	129	17	56	332
Calhoun	55	36	32	21	5	3	8	5	65
Carroll	5	16	31	104	48	158	16	54	332
Cass	21	58	11	30	30	85	38	107	280
Champaign	73	225	21	64	3	10	3	9	308
Christian	68	219	27	87	2	7	2	8	321
Clark	77	179	15	35	3	8	4	9	231
Clay	54	134	7	17	8	21	31	78	250
Clinton	67	184	5	15	19	52	8	23	274
Coles	72	167	16	38	8	18	4	9	232
Crawford	81	207	9	23	4	10	7	17	257
Cumberland	87	230	3	8	1	3	9	23	264
DeKalb	26	74	26	72	43	122	5	13	281
DeWitt	82	266	1	4	6	20	11	35	325
Douglas	83	220	8	22	0	1	8	21	264
Edgar	48	116	21	50	4	10	27	64	240
Edwards	53	90	0	0	13	22	34	58	170
Effingham	77	193	10	24	4	9	10	25	251
Fayette	80	215	6	16	7	18	7	20	269
Ford	69	217	17	52	3	10	11	34	313
Franklin	79	85	1	1	4	4	17	18	108
Fulton	10	27	45	125	30	85	15	43	280
Gallatin	83	178	8	17	0	0	9	19	214
Greene	91	294	0	0	2	6	7	24	324
Grundy	87	221	4	11	4	10	4	11	253
Hamilton	37	49	12	16	0	0	51	67	132
Hancock	51	113	18	40	3	6	28	61	220
Hardin	85	17	0	0	0	0	15	3	20
Henderson	4	8	44	96	42	90	10	22	216
Henry	26	80	23	69	8	24	43	130	303
Iroquois	27	65	29	70	31	75	13	30	240
Jackson	59	70	11	13	7	8	24	28	119
Jasper	76	181	3	8	2	4	19	45	238
Jefferson	46	53	20	23	15	17	20	23	116
Jersey	36	76	15	31	12	25	38	80	212
JoDaviess	7	15	21	42	41	83	31	62	202
Johnson	75	18	4	1	0	0	21	5	24
Kane	5	10	51	109	41	86	3	7	212
Kankakee	65	163	19	48	4	11	11	28	250
Kendall	65	159	17	42	13	31	6	14	246
Knox	40	79	26	51	19	37	16	31	198
Lake	0	0	0	0	0	0	0	0	0
LaSalle	71	172	14	35	1	3	14	33	243
Lawrence	42	120	19	54	12	33	27	76	283
Lee	29	97	43	146	28	93	0	1	337

Livingston	70	144	24	50	2	5	4	8	207
Logan	21	61	31	90	13	38	35	104	293
McDonough	36	94	32	84	20	52	13	33	263
McHenry	72	150	12	24	5	11	11	22	207
McLean	64	161	6	15	15	37	15	37	250
Macon	89	269	10	29	1	2	1	2	302
Macoupin	69	191	17	48	5	13	9	25	277
Madison	66	96	21	30	3	5	10	14	145
Marion	71	103	10	15	0	0	19	27	145
Marshall	2	7	68	216	19	59	11	36	318
Mason	5	19	43	148	21	72	31	108	347
Massac	41	37	2	2	0	0	57	51	90
Menard	9	20	35	80	12	27	44	101	228
Mercer	0	0	42	97	10	22	48	110	229
Monroe	68	81	24	29	4	5	3	4	119
Montgomery	67	158	23	53	5	11	6	13	235
Morgan	60	241	20	79	1	6	19	77	403
Moultrie	72	202	20	57	7	19	0	1	279
Ogle	38	124	31	103	22	72	9	29	328
Peoria	6	16	34	88	26	68	33	85	257
Perry	15	18	32	40	17	21	36	45	124
Piatt	78	261	15	49	6	19	2	6	335
Pike	58	138	28	68	11	26	3	7	239
Pope	33	13	0	0	5	2	63	25	40
Pulaski	47	30	11	7	17	11	25	16	64
Putnam	7	9	55	71	19	24	19	25	129
Randolph	81	134	11	18	7	12	1	1	165
Richland	63	139	0	1	7	16	30	66	222
Rock Island	12	25	24	49	12	24	51	104	202
St. Clair	96	137	1	2	1	1	1	2	142
Saline	45	62	12	17	4	6	39	54	139
Sangamon	57	154	18	49	8	21	17	47	271
Schuyler	38	108	27	77	24	69	10	28	282
Scott	7	18	49	119	26	63	17	42	242
Shelby	74	310	24	102	1	4	0	1	417
Stark	1	4	64	212	23	75	12	39	330
Stephenson	24	77	26	86	34	111	16	51	325
Tazewell	21	50	34	79	23	54	22	51	234
Union	27	12	0	0	2	1	70	31	44
Vermilion	97	231	2	5	0	0	0	1	237
Wabash	45	101	19	44	18	41	18	40	226
Warren	14	31	26	59	29	65	30	68	223
Washington	49	112	23	52	3	6	25	57	227
Wayne	20	26	30	38	15	19	35	45	128
White	32	58	0	0	1	2	67	123	183
Whiteside	23	72	29	90	22	68	26	80	310
Will	62	81	13	17	4	5	21	27	130
Williamson	10	5	35	17	12	6	43	21	49
Winnebago	21	75	29	103	25	89	26	94	361
Woodford	48	105	33	72	6	12	13	28	217
TOTALS	47.9%	10681	21.9%	4893	13.5%	3023	16.7%	3723	22320

REPORT 3

Soybean Field Points Surveyed with indicated Tillage System

COUNTY	CONVENTIONAL		REDUCED-TILL		MULCH-TILL		NO-TILL		Total
	Percentage	Points	Percentage	Points	Percentage	Points	Percentage	Points	
Adams	3	10	6	17	37	107	54	156	290
Alexander	23	18	9	7	10	8	57	44	77
Bond	55	87	5	8	0	0	40	64	159
Boone	18	32	13	23	17	31	52	94	180
Brown	17	37	6	14	16	35	61	136	222
Bureau	1	2	8	14	36	65	55	100	181
Calhoun	18	9	33	17	10	5	39	20	51
Carroll	2	3	11	15	36	50	51	71	139
Cass	5	11	9	21	22	52	65	153	237
Champaign	5	15	31	84	32	86	32	88	273
Christian	22	41	44	82	10	18	24	45	186
Clark	14	35	30	73	14	33	42	102	243
Clay	15	43	5	14	6	17	75	222	296
Clinton	29	69	5	12	26	60	40	94	235
Coles	13	28	40	85	16	34	31	66	213
Crawford	16	40	18	46	16	41	51	131	258
Cumberland	22	71	17	53	6	19	55	174	317
DeKalb	6	10	6	9	59	92	29	46	157
DeWitt	10	26	28	76	28	75	34	92	269
Douglas	18	42	36	85	2	5	43	101	233
Edgar	7	16	21	45	10	21	63	137	219
Edwards	9	16	0	0	23	39	67	114	169
Effingham	33	83	18	44	12	29	37	93	249
Fayette	21	73	14	49	18	61	47	161	344
Ford	15	43	30	88	14	41	41	122	294
Franklin	25	58	2	5	9	21	64	151	235
Fulton	1	2	4	11	24	61	71	179	253
Gallatin	37	70	27	51	0	0	37	70	191
Greene	25	64	0	0	17	44	57	144	252
Grundy	21	47	11	23	21	45	47	104	219
Hamilton	21	41	9	17	6	11	64	122	191
Hancock	8	19	17	42	16	39	59	141	241
Hardin	5	1	0	0	0	0	95	19	20
Henderson	1	1	13	23	28	50	58	103	177
Henry	9	24	17	45	21	54	53	138	261
Iroquois	2	3	6	11	31	60	62	119	193
Jackson	37	94	15	39	14	35	34	87	255
Jasper	24	75	4	12	4	13	68	212	312
Jefferson	26	61	13	30	15	35	47	112	238
Jersey	5	9	11	20	14	25	69	122	176
JoDaviess	0	0	17	17	29	30	54	56	103
Johnson	27	14	10	5	6	3	58	30	52
Kane	3	4	17	26	42	66	39	61	157
Kankakee	16	32	22	43	10	20	51	100	195
Kendall	24	53	17	37	19	42	40	87	219
Knox	12	20	10	16	8	13	70	115	164
Lake	0	0	0	0	0	0	0	0	0
LaSalle	25	48	25	47	12	22	38	72	189
Lawrence	12	30	6	14	21	52	60	146	242

Lee	4	7	21	36	34	60	41	71	174
Livingston	10	23	35	80	17	39	37	85	227
Logan	1	4	23	61	22	59	54	147	271
McDonough	7	14	23	46	28	57	42	85	202
McHenry	31	41	4	5	9	12	56	75	133
McLean	9	20	4	8	45	99	43	95	222
Macon	37	91	35	85	9	21	19	46	243
Macoupin	18	31	24	42	8	14	50	87	174
Madison	13	22	41	67	15	24	32	52	165
Marion	16	31	18	34	4	8	62	121	194
Marshall	0	1	9	20	64	134	27	56	211
Mason	3	5	26	49	20	37	51	96	187
Massac	11	15	4	5	1	1	85	115	136
Menard	2	5	26	54	16	33	55	114	206
Mercer	0	0	7	13	10	20	83	166	199
Monroe	19	23	36	43	22	26	22	26	118
Montgomery	4	7	15	28	32	60	49	93	188
Morgan	27	93	12	39	17	58	44	149	339
Moultrie	8	17	26	57	43	95	24	54	223
Ogle	11	21	27	50	22	42	40	75	188
Peoria	3	8	15	37	19	48	63	159	252
Perry	6	13	23	51	6	13	65	144	221
Piatt	13	36	29	81	26	72	32	90	279
Pike	9	15	17	28	14	23	60	98	164
Pope	38	30	0	0	0	0	63	50	80
Pulaski	16	12	5	4	12	9	67	51	76
Putnam	1	1	33	29	27	24	39	34	88
Randolph	21	45	15	32	9	19	56	123	219
Richland	9	23	1	2	12	30	78	193	248
Rock Island	4	8	9	16	19	34	68	123	181
St. Clair	29	34	23	27	7	8	41	47	116
Saline	15	29	15	29	4	8	66	131	197
Sangamon	19	36	25	48	15	29	42	81	194
Schuyler	4	12	9	27	40	119	46	136	294
Scott	0	0	4	7	24	44	72	129	180
Shelby	18	62	47	165	11	40	25	87	354
Stark	0	0	18	43	28	69	54	132	244
Stephenson	3	6	10	18	33	61	54	99	184
Tazewell	2	3	24	48	23	46	51	101	198
Union	20	17	5	4	3	3	72	63	87
Vermilion	30	64	15	31	6	13	49	104	212
Wabash	7	19	16	42	31	80	45	117	258
Warren	1	3	3	6	28	62	68	148	219
Washington	12	33	15	43	21	59	52	148	283
Wayne	10	18	6	10	18	31	66	113	172
White	15	31	2	5	7	14	77	163	213
Whiteside	5	7	15	22	6	9	74	110	148
Will	26	44	16	27	5	8	53	90	169
Williamson	26	27	12	12	12	12	50	51	102
Winnebago	2	4	22	52	26	62	50	119	237
Woodford	11	21	19	35	26	50	44	83	189
TOTALS	13.8%	2762	16.5%	3318	18.7%	3763	51.0%	10241	20084

REPORT 4

Small Grain Field Points Surveyed with indicated Tillage System

COUNTY	CONVENTIONAL		REDUCED-TILL		MULCH-TILL		NO-TILL		Total
	Percentage	Points	Percentage	Points	Percentage	Points	Percentage	Points	
Adams	0	0	0	0	11	4	89	33	37
Alexander	89	8	0	0	11	1	0	0	9
Bond	45	34	0	0	0	0	55	41	75
Boone	60	12	30	6	5	1	5	1	20
Brown	0	0	0	0	0	0	100	19	19
Bureau	0	0	18	2	27	3	55	6	11
Calhoun	50	1	50	1	0	0	0	0	2
Carroll	0	0	9	1	91	10	0	0	11
Cass	0	0	10	3	14	4	76	22	29
Champaign	0	0	0	0	0	0	100	4	4
Christian	0	0	0	0	75	3	25	1	4
Clark	0	0	6	2	63	10	31	5	17
Clay	9	7	1	1	18	14	71	54	76
Clinton	15	20	0	0	62	82	23	30	132
Coles	0	0	50	3	17	1	33	2	6
Crawford	9	3	63	22	26	9	3	1	35
Cumberland	11	2	22	4	39	7	28	5	18
DeKalb	13	1	25	2	63	5	0	0	8
DeWitt	0	0	0	0	0	0	0	0	0
Douglas	80	4	0	0	20	1	0	0	5
Edgar	0	0	67	2	33	1	0	0	3
Edwards	36	15	0	0	5	2	60	25	42
Effingham	82	41	0	0	2	1	16	8	50
Fayette	0	0	13	10	40	31	47	37	78
Ford	0	0	0	0	0	0	100	10	10
Franklin	17	11	54	34	8	5	21	13	63
Fulton	0	0	0	0	0	0	100	17	17
Gallatin	54	7	8	1	0	0	38	5	13
Greene	48	11	0	0	0	0	52	12	23
Grundy	100	4	0	0	0	0	0	0	4
Hamilton	4	2	19	10	28	15	49	26	53
Hancock	18	4	14	3	5	1	64	14	22
Hardin	0	0	0	0	0	0	0	0	0
Henderson	0	0	100	11	0	0	0	0	11
Henry	100	1	0	0	0	0	0	0	1
Iroquois	0	0	0	0	8	1	92	11	12
Jackson	38	18	15	7	13	6	34	16	47
Jasper	0	0	10	3	3	1	86	25	29
Jefferson	3	2	2	1	88	51	7	4	58
Jersey	16	4	0	0	4	1	80	20	25
JoDaviess	13	2	20	3	60	9	7	1	15
Johnson	0	0	0	0	0	0	100	5	5
Kane	4	1	13	3	0	0	83	20	24
Kankakee	57	16	11	3	0	0	32	9	28
Kendall	14	2	64	9	7	1	14	2	14
Knox	25	1	25	1	0	0	50	2	4
Lake	0	0	0	0	0	0	0	0	0
LaSalle	40	2	60	3	0	0	0	0	5
Lawrence	4	2	2	1	40	19	53	25	47
Lee	30	3	10	1	20	2	40	4	10

Livingston	61	11	39	7	0	0	0	0	18
Logan	0	0	0	0	0	0	100	1	1
McDonough	0	0	14	1	86	6	0	0	7
McHenry	100	34	0	0	0	0	0	0	34
McLean	0	0	0	0	0	0	100	2	2
Macon	100	3	0	0	0	0	0	0	3
Macoupin	100	13	0	0	0	0	0	0	13
Madison	0	0	5	3	77	44	18	10	57
Marion	59	41	20	14	1	1	19	13	69
Marshall	0	0	9	1	82	9	9	1	11
Mason	0	0	13	6	31	15	56	27	48
Massac	0	0	0	0	0	0	0	0	0
Menard	5	1	95	18	0	0	0	0	19
Mercer	0	0	0	0	100	8	0	0	8
Monroe	2	2	25	27	31	33	42	44	106
Montgomery	0	0	0	0	0	0	100	24	24
Morgan	0	0	0	0	0	0	100	11	11
Moultrie	0	0	75	3	0	0	25	1	4
Ogle	52	11	38	8	10	2	0	0	21
Peoria	0	0	7	1	13	2	80	12	15
Perry	1	1	6	5	7	6	86	74	86
Piatt	33	1	0	0	67	2	0	0	3
Pike	0	0	0	0	13	2	88	14	16
Pope	0	0	0	0	0	0	100	2	2
Pulaski	100	18	0	0	0	0	0	0	18
Putnam	0	0	100	6	0	0	0	0	6
Randolph	17	26	7	11	56	87	19	30	154
Richland	81	35	0	0	7	3	12	5	43
Rock Island	29	2	14	1	14	1	43	3	7
St. Clair	89	49	7	4	2	1	2	1	55
Saline	0	0	0	0	0	0	100	14	14
Sangamon	0	0	0	0	0	0	100	2	2
Schuyler	0	0	0	0	100	40	0	0	40
Scott	0	0	0	0	100	11	0	0	11
Shelby	70	31	30	13	0	0	0	0	44
Stark	0	0	33	2	67	4	0	0	6
Stephenson	0	0	100	21	0	0	0	0	21
Tazewell	17	2	25	3	17	2	42	5	12
Union	0	0	0	0	43	3	57	4	7
Vermilion	100	10	0	0	0	0	0	0	10
Wabash	0	0	0	0	0	0	0	0	0
Warren	0	0	0	0	0	0	100	1	1
Washington	10	16	72	121	11	19	7	11	167
Wayne	11	4	46	16	37	13	6	2	35
White	0	0	0	0	0	0	100	58	58
Whiteside	100	8	0	0	0	0	0	0	8
Will	56	9	19	3	6	1	19	3	16
Williamson	0	0	100	1	0	0	0	0	1
Winnebago	0	0	0	0	98	40	2	1	41
Woodford	0	0	7	1	0	0	93	13	14
TOTALS	21.9%	569	17.3%	450	25.3%	657	35.5%	924	2600

REPORT 5

Percent (Number) of Fields Surveyed With Indicated Ephemeral Erosion

COUNTY	YES		NO		Total Points
	Percentage	Points	Percentage	Points	
Adams	39	285	61	453	738
Alexander	2	3	98	140	143
Bond	9	40	91	404	444
Boone	10	50	90	452	502
Brown	66	360	34	183	543
Bureau	21	114	79	427	541
Calhoun	18	44	82	205	249
Carroll	18	101	82	466	567
Cass	43	270	57	362	632
Champaign	12	71	88	535	606
Christian	2	13	98	529	542
Clark	21	106	79	393	499
Clay	11	75	89	630	705
Clinton	0	0	100	708	708
Coles	19	90	81	377	467
Crawford	35	212	65	397	609
Cumberland	10	64	90	599	663
DeKalb	9	45	91	437	482
DeWitt	6	36	94	573	609
Douglas	3	15	97	495	510
Edgar	16	77	84	400	477
Edwards	29	132	71	317	449
Effingham	16	98	84	518	616
Fayette	18	139	82	648	787
Ford	9	56	91	583	639
Franklin	1	4	99	517	521
Fulton	40	250	60	372	622
Gallatin	60	264	40	176	440
Greene	29	192	71	478	670
Grundy	0	2	100	491	493
Hamilton	14	70	86	420	490
Hancock	43	229	57	300	529
Hardin	31	40	69	88	128
Henderson	60	276	40	187	463
Henry	6	40	94	582	622
Iroquois	8	37	92	419	456
Jackson	56	331	44	262	593
Jasper	24	151	76	470	621
Jefferson	54	312	46	261	573
Jersey	23	104	77	345	449
JoDaviess	61	284	39	183	467
Johnson	4	7	96	184	191
Kane	4	18	96	410	428
Kankakee	1	4	99	498	502
Kendall	2	9	98	509	518
Knox	41	163	59	239	402
Lake	0	0	0	0	0
LaSalle	21	95	79	361	456
Lawrence	39	234	61	364	598
Lee	7	37	93	503	540
Livingston	4	19	96	445	464
Logan	13	75	87	508	583
McDonough	14	70	86	438	508

McHenry	26	116	74	323	439
McLean	38	187	62	304	491
Macon	6	34	94	526	560
Macoupin	12	59	88	448	507
Madison	48	191	52	205	396
Marion	19	100	81	437	537
Marshall	59	335	41	229	564
Mason	2	11	98	649	660
Massac	6	20	94	313	333
Menard	45	213	55	263	476
Mercer	51	233	49	227	460
Monroe	44	157	56	197	354
Montgomery	45	211	55	257	468
Morgan	29	231	71	559	790
Moultrie	24	127	76	401	528
Ogle	76	458	24	142	600
Peoria	65	386	35	212	598
Perry	6	33	93	454	487
Piatt	8	48	92	574	622
Pike	8	41	92	479	520
Pope	36	128	64	225	353
Pulaski	9	18	91	187	205
Putnam	42	99	58	136	235
Randolph	10	64	90	552	616
Richland	18	101	82	449	550
Rock Island	41	194	59	282	476
St. Clair	54	181	46	154	335
Saline	48	224	52	238	462
Sangamon	41	206	59	299	505
Schuyler	40	314	60	469	783
Scott	19	89	81	370	459
Shelby	21	182	79	701	883
Stark	60	358	40	236	594
Stephenson	21	134	79	504	638
Tazewell	20	101	80	396	497
Union	3	17	96	459	476
Vermilion	25	117	75	358	475
Wabash	37	187	63	324	511
Warren	51	235	49	230	465
Washington	3	23	97	697	720
Wayne	15	68	85	394	462
White	45	220	55	272	492
Whiteside	44	228	56	286	514
Will	11	37	89	304	341
Williamson	25	79	75	240	319
Winnebago	5	40	95	711	751
Woodford	8	38	92	414	452
TOTALS	24.9%	12686	75.1%	38327	51013