



Illinois
Department of
Agriculture

2017 Illinois Transect Survey Report

2017 Illinois Transect Survey Report -Bureau of Land and Water Resources – NLRS AWQPF, March 2018

2017 Illinois Transect Survey Report

- Survey Methods
 - SWCD staff conduct windshield surveys
 - County based; 51,280 points statewide
 - Same data points surveyed; each ½ to 1 mile
 - 400 to 500 points over 100 mile transecting route
 - Conducted shortly after crop emergence
 - Gully erosion reported if treatment needed

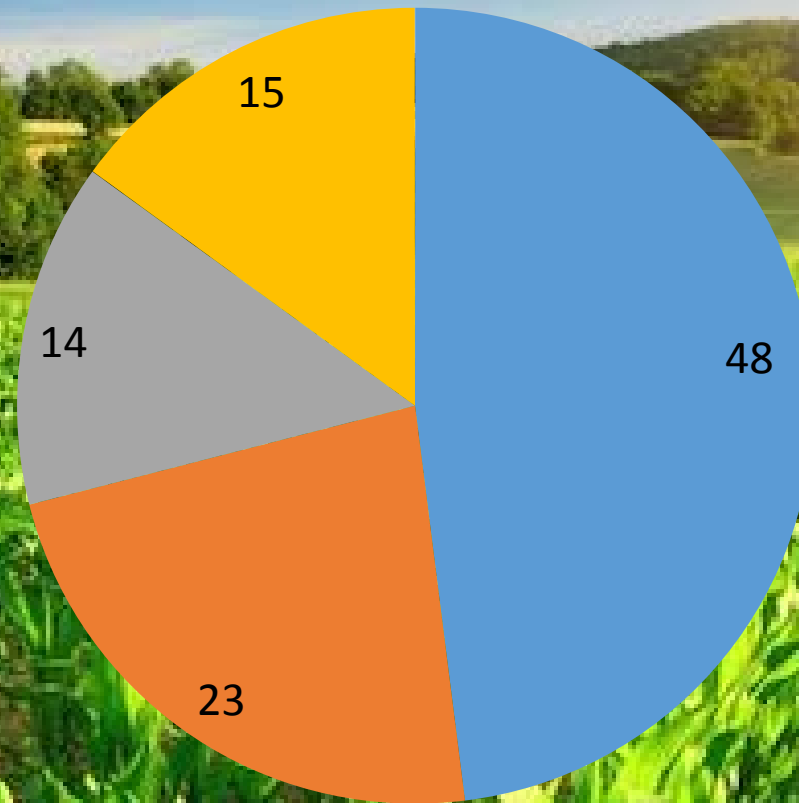
2017 Illinois Transect Survey Report

- Survey Methods



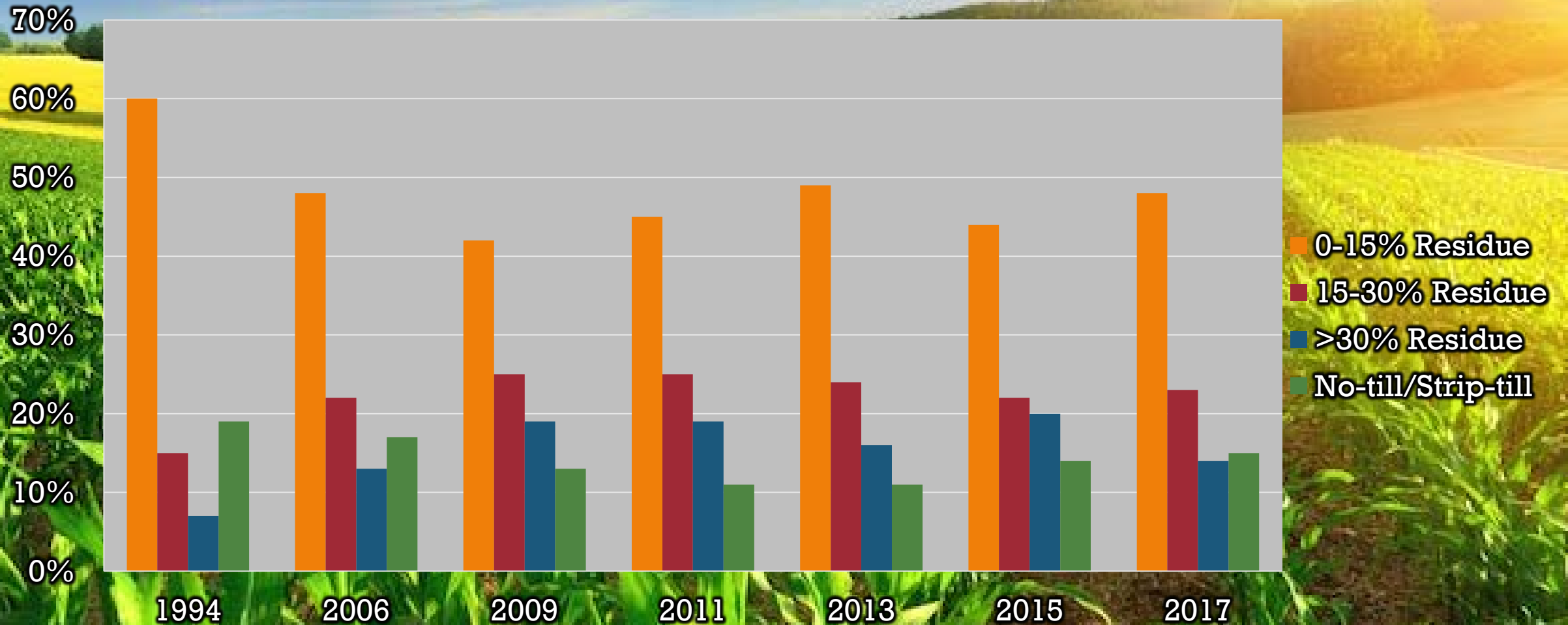
ILLINOIS SOIL CONSERVATION TRANSECT SURVEY													
Year	County	Crop Choices	Tillage Choices	Residue Choices	Slope % Choices	Slope Length Choices	T Factor Choices	P Factor Choices	K Factor Choices	HUC8	Y_Coord	X_Coord	Notes
2017	Adams	C - Corn D - Defoliated soybeans R - Row soybeans G - Small grains H - Hay F - Fallow X - Specialty Crop Z - CRP	C - Conventional (Residue code = 1) R - Reduced tillage (Residue code = 2) M - Mouldboard (Residue code = 3, 4, or 5) N - No-till (Residue code = 3, 4, or 5) NA - Not applicable	1 - 0-15% 2 - 16-30% 3 - 31-50% 4 - 51-75% 5 - 76-100% NA - Not applicable Cell turns yellow if incorrect Residue code is given for a particular tillage type.	1 - 2% 2 - 3% 3 - 4% 4 - 5% 5 - 6% 6 - 7% 7 - 8% 8 - 9% 9 - 10% 10 - 11% 11 - 12% 12 - 13% 13 - 14% 14 - 15% 15 - 16% 16 - 17% 17 - 18% 18 - 19% 19 - 20% 20 - 21% 21 - 22% 22 - 23% 23 - 24% 24 - 25% 25 - 26% 26 - 27% 27 - 28% 28 - 29% 29 - 30% 30 - 31% 31 - 32% 32 - 33% 33 - 34% 34 - 35% 35 - 36% 36 - 37% 37 - 38% 38 - 39% 39 - 40% 40 - 41% 41 - 42% 42 - 43% 43 - 44% 44 - 45% 45 - 46% 46 - 47% 47 - 48% 48 - 49% 49 - 50% 50 - 51% 51 - 52% 52 - 53% 53 - 54% 54 - 55% 55 - 56% 56 - 57% 57 - 58% 58 - 59% 59 - 60% 60 - 61% 61 - 62% 62 - 63% 63 - 64% 64 - 65% 65 - 66% 66 - 67% 67 - 68% 68 - 69% 69 - 70% 70 - 71% 71 - 72% 72 - 73% 73 - 74% 74 - 75% 75 - 76% 76 - 77% 77 - 78% 78 - 79% 79 - 80% 80 - 81% 81 - 82% 82 - 83% 83 - 84% 84 - 85% 85 - 86% 86 - 87% 87 - 88% 88 - 89% 89 - 90% 90 - 91% 91 - 92% 92 - 93% 93 - 94% 94 - 95% 95 - 96% 96 - 97% 97 - 98% 98 - 99% 99 - 100%	1 - 20' 2 - 21-30' 3 - 31-40' 4 - 41-50' 5 - 51-60' 6 - 61-70' 7 - 71-80' 8 - 81-90' 9 - 91-100'	1 - 0.25 2 - 0.5 3 - 0.75 4 - 1.0 5 - 1.25 6 - 1.5 7 - 1.75 8 - 2.0 9 - 2.25 10 - 2.5 11 - 2.75 12 - 3.0 13 - 3.25 14 - 3.5 15 - 3.75 16 - 4.0 17 - 4.25 18 - 4.5 19 - 4.75 20 - 5.0 21 - 5.25 22 - 5.5 23 - 5.75 24 - 6.0 25 - 6.25 26 - 6.5 27 - 6.75 28 - 7.0 29 - 7.25 30 - 7.5 31 - 7.75 32 - 8.0 33 - 8.25 34 - 8.5 35 - 8.75 36 - 9.0 37 - 9.25 38 - 9.5 39 - 9.75 40 - 10.0 41 - 10.25 42 - 10.5 43 - 10.75 44 - 11.0 45 - 11.25 46 - 11.5 47 - 11.75 48 - 12.0 49 - 12.25 50 - 12.5 51 - 12.75 52 - 13.0 53 - 13.25 54 - 13.5 55 - 13.75 56 - 14.0 57 - 14.25 58 - 14.5 59 - 14.75 60 - 15.0 61 - 15.25 62 - 15.5 63 - 15.75 64 - 16.0 65 - 16.25 66 - 16.5 67 - 16.75 68 - 17.0 69 - 17.25 70 - 17.5 71 - 17.75 72 - 18.0 73 - 18.25 74 - 18.5 75 - 18.75 76 - 19.0 77 - 19.25 78 - 19.5 79 - 19.75 80 - 20.0 81 - 20.25 82 - 20.5 83 - 20.75 84 - 21.0 85 - 21.25 86 - 21.5 87 - 21.75 88 - 22.0 89 - 22.25 90 - 22.5 91 - 22.75 92 - 23.0 93 - 23.25 94 - 23.5 95 - 23.75 96 - 24.0 97 - 24.25 98 - 24.5 99 - 24.75 100 - 25.0	1 - 0.45 2 - 0.37 3 - 0.32 4 - 0.28 5 - 0.24 6 - 0.20 7 - 0.17 8 - 0.15 9 - 0.13 10 - 0.11 11 - 0.09 12 - 0.08 13 - 0.07 14 - 0.06 15 - 0.05 16 - 0.04 17 - 0.03 18 - 0.02 19 - 0.01 20 - 0.00	730010	40.18744	-90.94333		
1R	C	R	2	D	N	N	C			730010	40.18744	-90.94532	
2L	C	R	2	C	N	N	C			730010	40.18044	-90.94305	
2R	C	R	2	D	N	N	C			730010	40.18039	-90.94468	
3L	C	R	2	D	N	N	F			730010	40.17385	-90.94555	
3R	C	R	2	D	N	N	C			730010	40.17389	-90.94673	
4L	C	M	3	C	N	N	C			730010	40.17069	-90.95028	
4R	D	R	2	C	N	N	R			730010	40.17176	-90.95029	
5L	C	R	2	D	N	N	C			730010	40.17097	-90.95929	
5R	C	R	2	D	N	N	C			730010	40.17178	-90.95936	
6L	C	M	3	C	N	N	R			730010	40.17115	-90.9701	
6R	C	R	2	D	N	N	C			730010	40.17201	-90.97017	
7L	C	R	2	D	N	N	C			730010	40.17456	-90.97468	
7R	C	R	2	D	N	N	C			730010	40.17461	-90.97367	
8L	C	R	2	D	N	N	C			730010	40.17866	-90.97697	
8R	D	N	5	C	N	N	D			730010	40.17939	-90.97692	
9L	C	R	2	D	N	N	C			730010	40.17889	-90.98705	
9R	D	M	4	C	N	N	D			730010	40.17958	-90.987	
10L	D	M	3	C	N	N	D			730010	40.17905	-90.99545	
10R	D	M	3	C	N	N	D			730010	40.17986	-90.99546	
11L	C	R	2	D	N	N	C			730010	40.17919	-91.0057	
11R	C	R	2	D	N	N	C			730010	40.18005	-91.00571	
12L	C	R	2	D	N	N	C			730010	40.17937	-91.01584	
12R	C	R	2	D	N	N	C			730010	40.18032	-91.01585	
13L	C	R	2	D	N	N	C			730010	40.17957	-91.02346	
13R	D	R	2	C	N	N	D			730010	40.18043	-91.02347	
14L	C	R	2	D	N	N	C			730010	40.17947	-91.03107	
14R	C	R	2	D	N	N	C			730010	40.1802	-91.03108	
15L	R	M	4	C	N	N	C			730010	40.17934	-91.04344	

Corn Tillage Systems For 2017

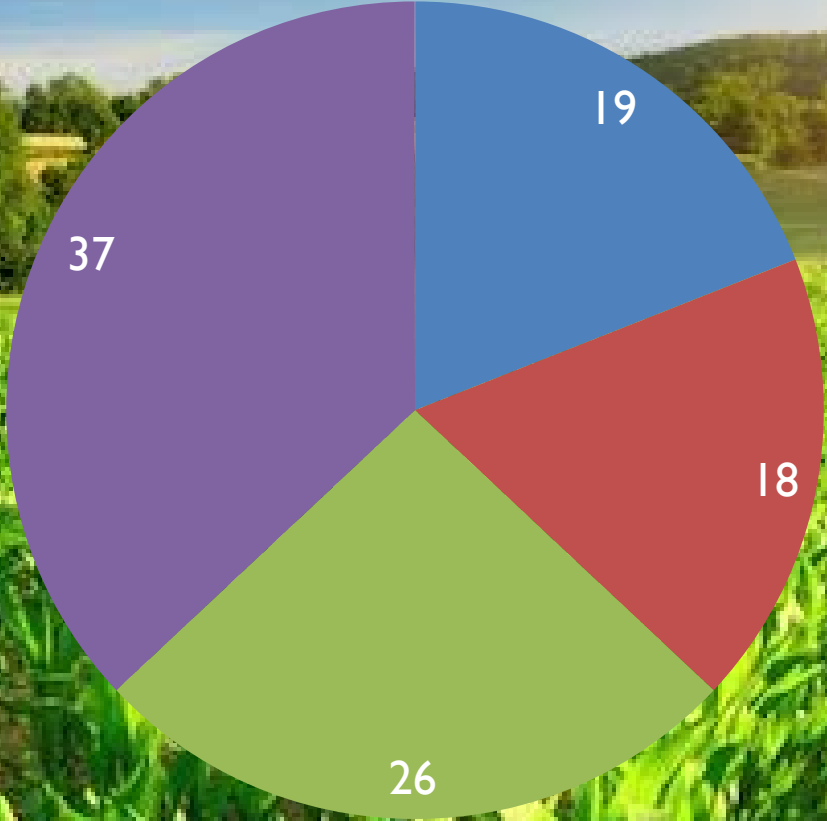


■ 0-15% Residue ■ 16-30% Residue ■ > 30% Residue ■ No-till & Strip-till

Corn Tillage Systems For 2017

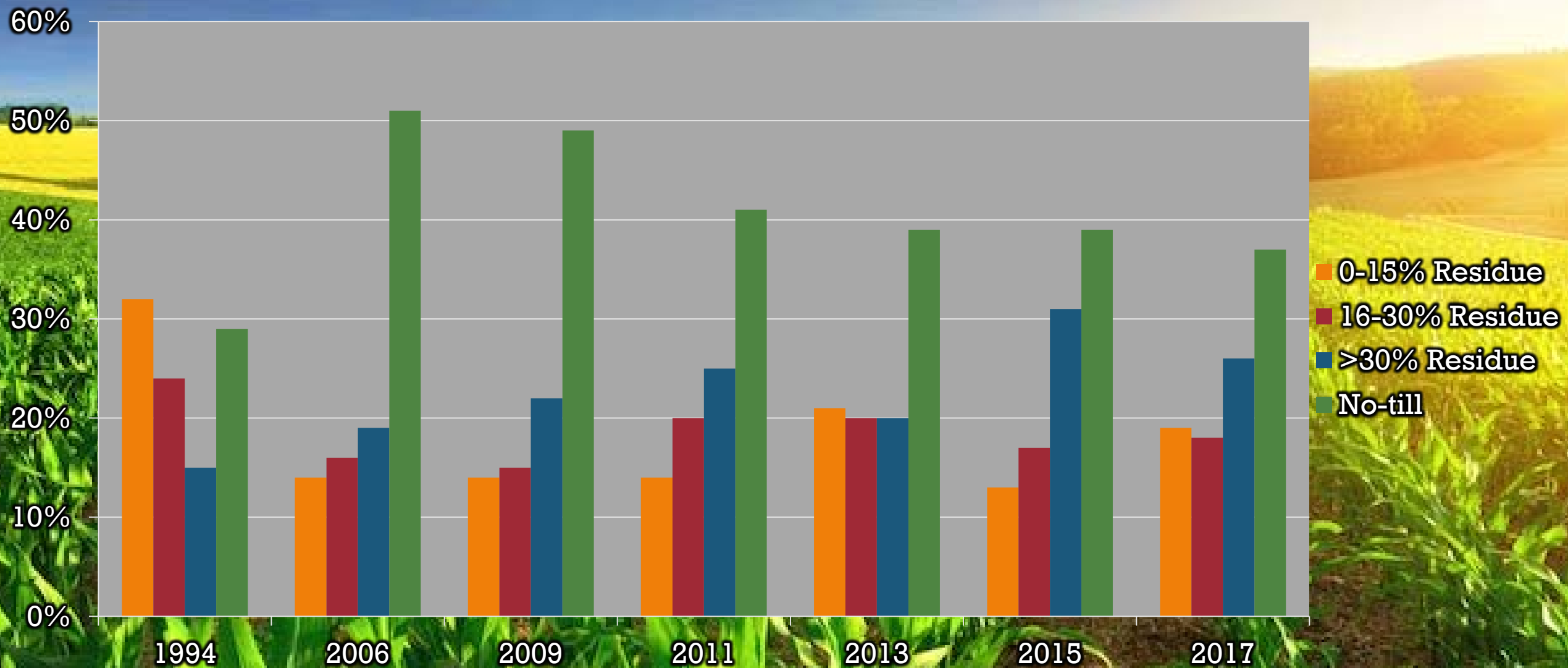


Soybeans Tillage Systems For 2017

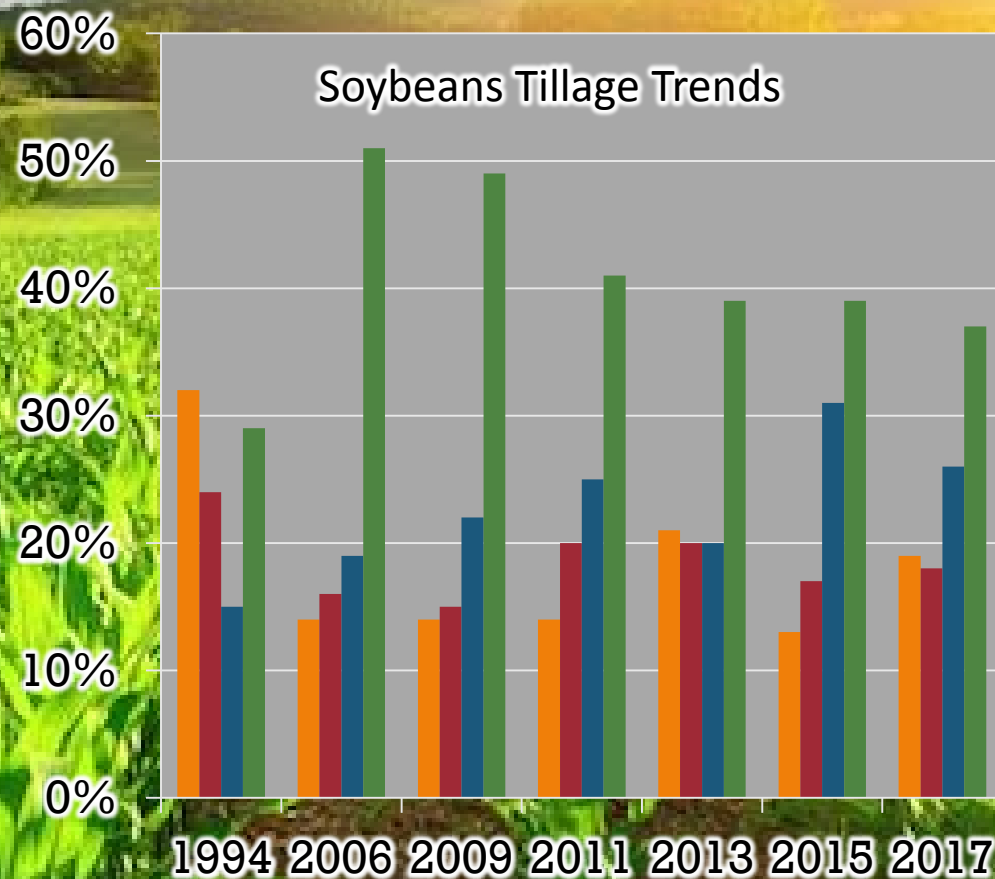
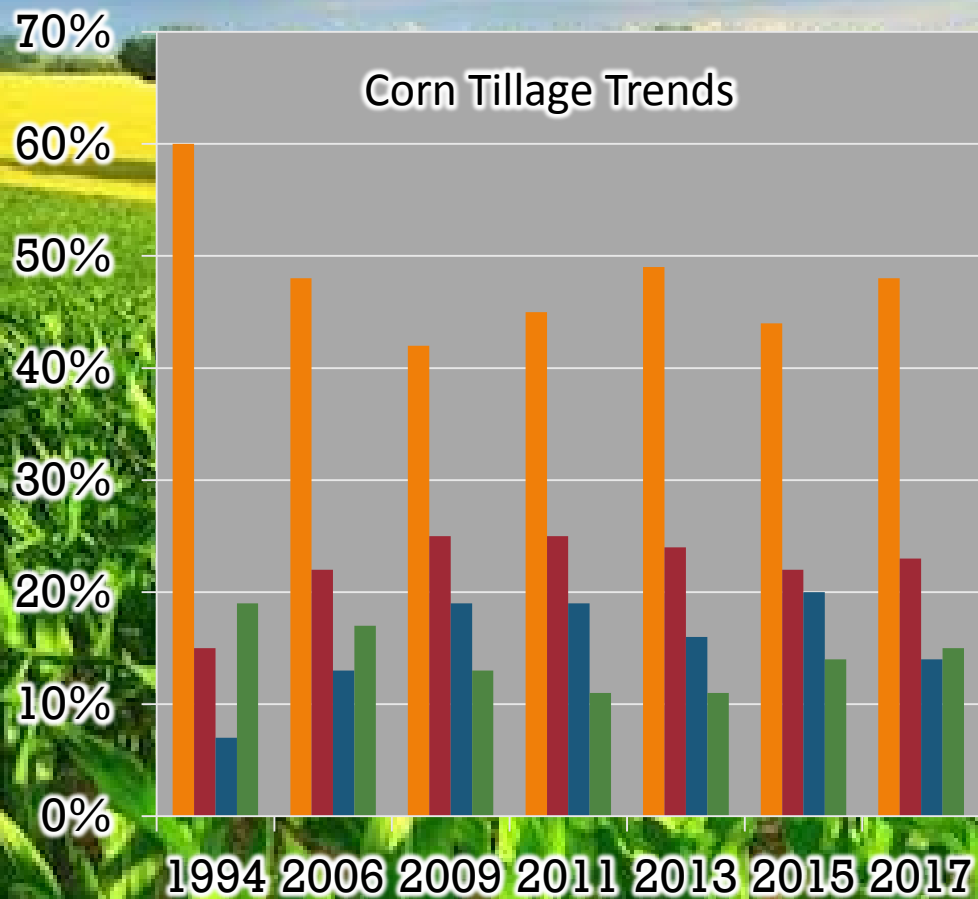


■ 0-15% Residue ■ 16-30% Residue ■ > 30% Residue ■ No-till

Soybeans Tillage Systems For 2017



Tillage System Trends



Ephemeral & Gully Erosion



2017 – 12% of fields surveyed

Averages 12-27%

Trending lower

Summary - Corn

- No till corn acres – 15%
- Conservation tillage, 30% residue cover after planting are trending slightly lower
 - Conventional tillage trending higher

Summary - Soybeans

- No – till soybeans on 37% of IL fields down from 51% in 2006
- Conventional tillage trending up slightly

Tolerable Soil Loss

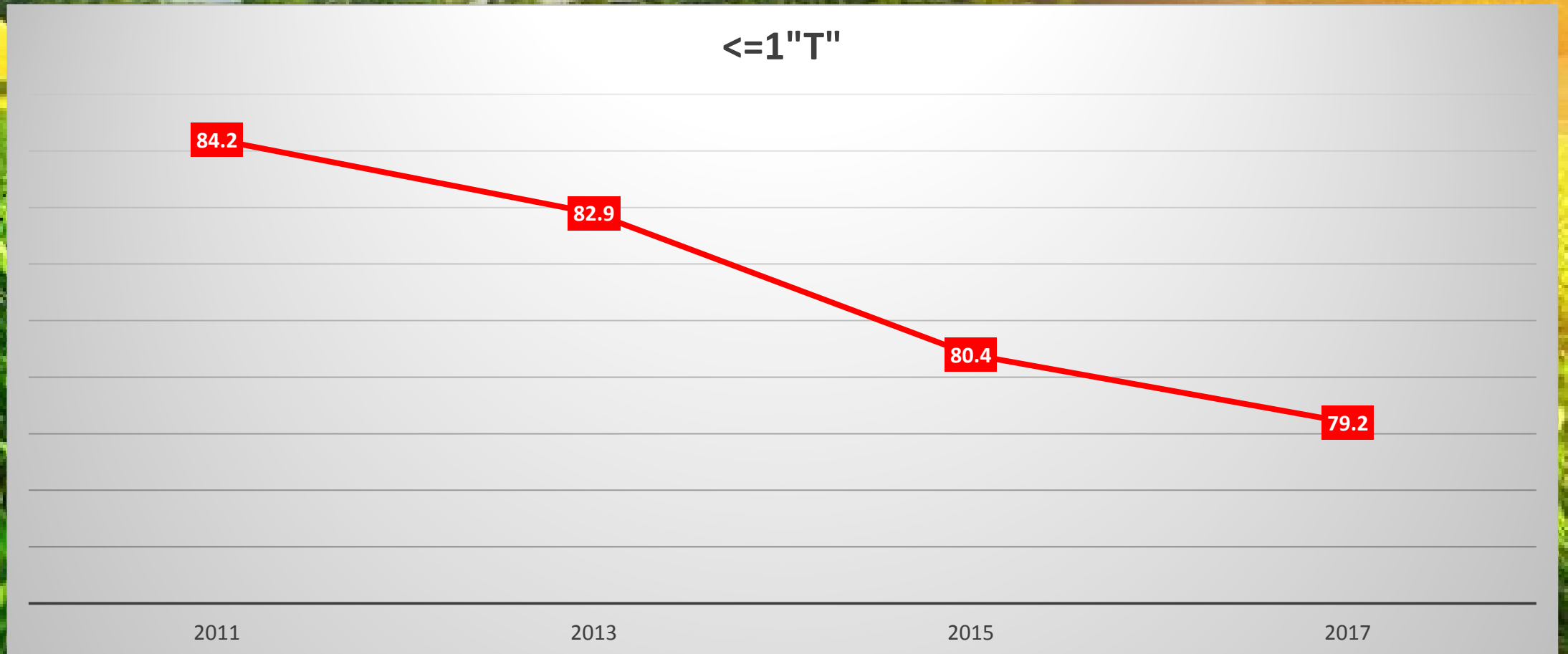
- Tolerable Erosion Levels "T" value, soil loss tolerance, assigned to each soil map unit, is the average annual erosion rate (tons/acre/year) that can occur and still permit a high level of crop productivity to be sustained economically and indefinitely
- Tolerable soil loss percentage has dropped from 87% in 1998 to 79% in 2017 – an 8% increase of land eroding above T

Tolerable Soil Loss

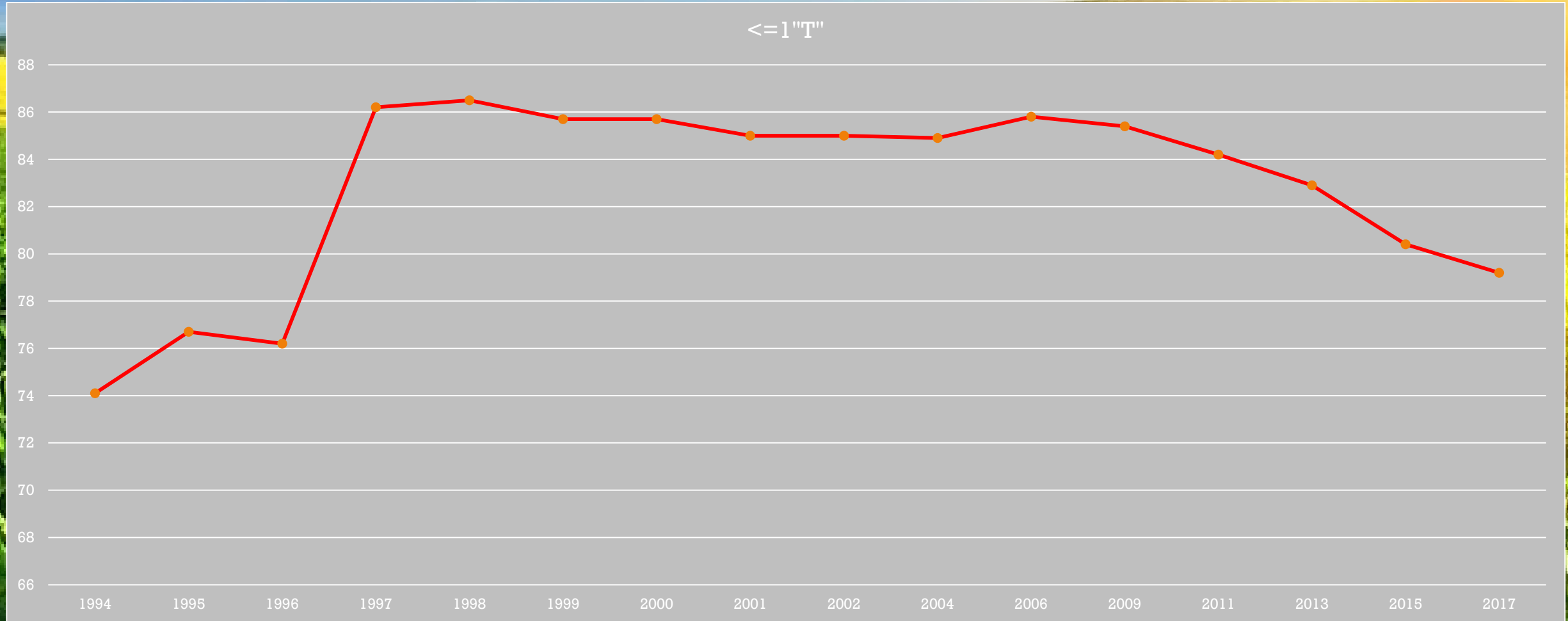


Tolerable Soil Loss

Percent of Land Below T since 2011

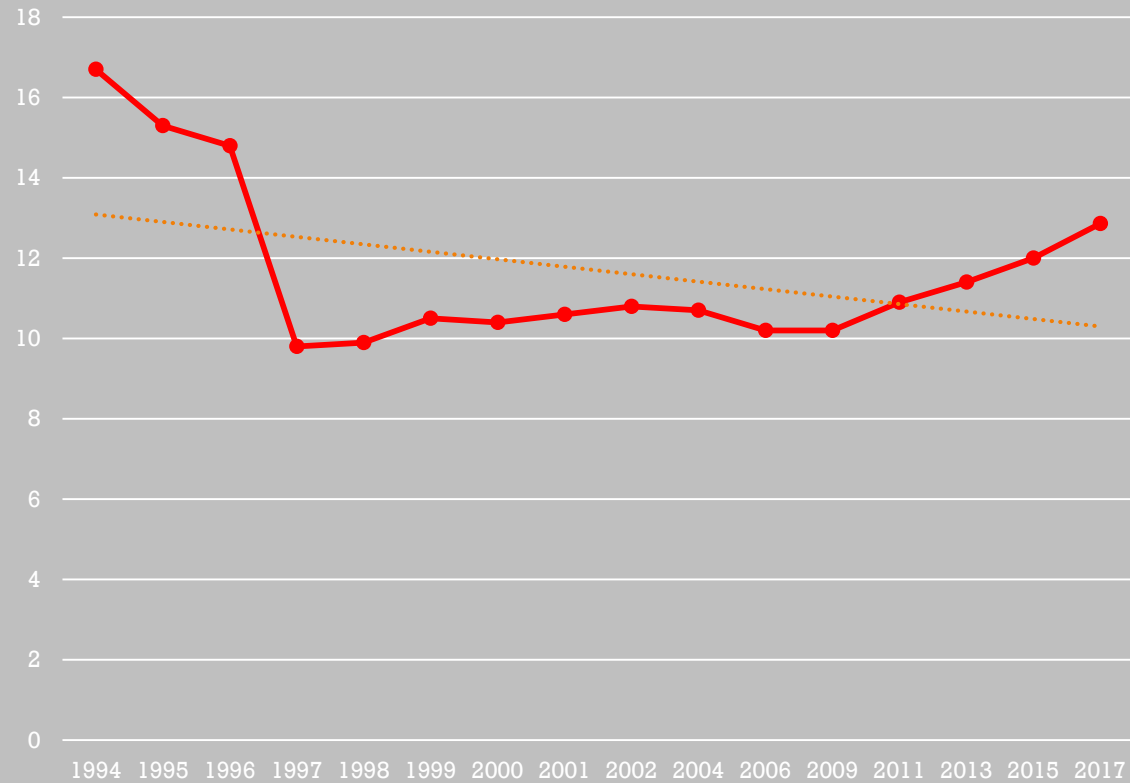


Percent of Land Below T

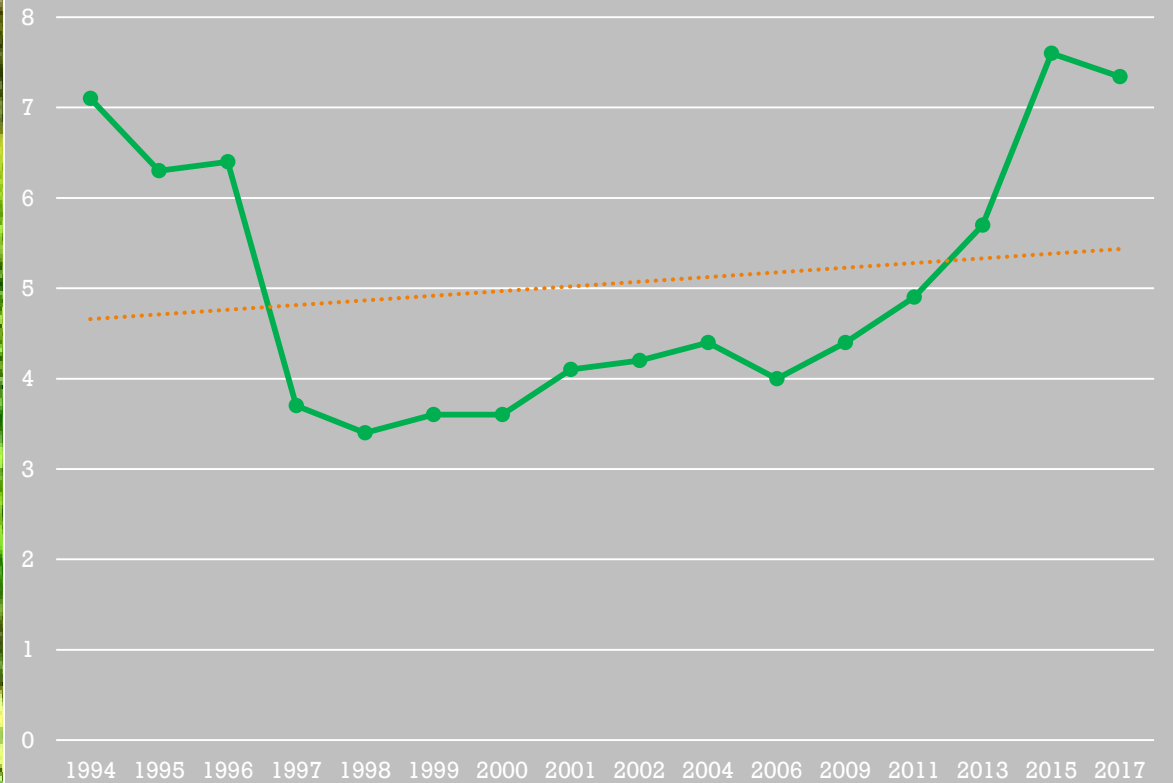


Percent of Land Below T

1-2" T



>2" T



Transect Survey Trends 1994 – 2017

Summary

- Tolerable soil loss percentage has dropped from 87% in 1994 to 79% in 2017 – an 8% increase of land eroding above T
- No – till soybeans on 37% of IL fields down from 51% in 2006
- Conservation tillage, 30% residue cover after planting are trending slightly lower
- Gully erosion has trended lower to 12% of fields needing treatment

Transect Survey Trends 1994 – 2017

Summary

- In the past few years, HUC 12 Watershed Transect Surveys have developed. (SWCD and Outside Partner driven)
- Vermilion Headwaters- Livingston, Ford, Iroquois Counties
- Upper Macoupin- Macoupin County
- Salt Fork- Champaign County
- Friends Creek- Macon, Dewitt, Piatt Counties
- Lake Mauvaise- Morgan County
- Lake Bloomington- McLean County
- Evergreen Lake- McLean County

Soil Conservation Transect Survey 2017 Results

- For more information, please visit

- <https://www2.illinois.gov/sites/agr/Resources/LandWater/Pages/Illinois-Soil-Conservation-Transect-Survey-Reports.aspx>


Soil Conservation Transect Survey 2017 Results

AGR ▶ Natural Resources ▶ Land & Water

Illinois Soil Conservation Transect Survey Reports

These reports compares survey results from the current survey with the six previous annual surveys of soil erosion and crop tillage information.








2017 Reports

-  [2017 Corn Tillage](#)
-  [2017 Soybean Tillage Report](#)
-  [2017 Small Grain Tillage Report](#)
-  [2017 Ephemeral Erosion Report](#)
-  [2017 Soil Loss Relative to T Report](#)




By County

-  [2017 Transect County Map, at or below T](#)
-  [2017 Transect County Map, 1 to 2T](#)
-  [2017 Transect County Map, Above 2T](#)

By Watershed

-  [2017\(HUC8\) Corn Tillage](#)
-  [2017\(HUC8\) Soybeans Tillage](#)
-  [2017\(HUC8\) Ephemeral Erosion](#)
-  [2017\(HUC8\) Soil Loss Relative To T](#)
-  [2017 Watershed Transect HUC8 Map, at or below T](#)
-  [2017 Watershed Transect HUC8 Map, 1 to 2T](#)
-  [2017 Watershed Transect HUC8 Map, Above 2T](#)

2015 Reports

-  [2015 Corn Tillage](#)
-  [2015 Soybean Tillage Report](#)
-  [2015 Small Grain Tillage Report](#)
-  [2015 Ephemeral Erosion Report](#)
-  [2015 Soil Loss Relative to T Report](#)

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Transect Survey 2018

The first back to back survey since 2001 and 2002

17th Survey

2017 Transect Survey

Questions?

Thank you

Special Thank You To

