WILL INCREASING CORN ACRES IN WISCONSIN LEAD TO MORE SEDIMENT AND PHOSPHORUS IN RUNOFF?

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Converting CRP to row crops will increase sediment and phosphorus loads to area waters.

Keep Losses Small!

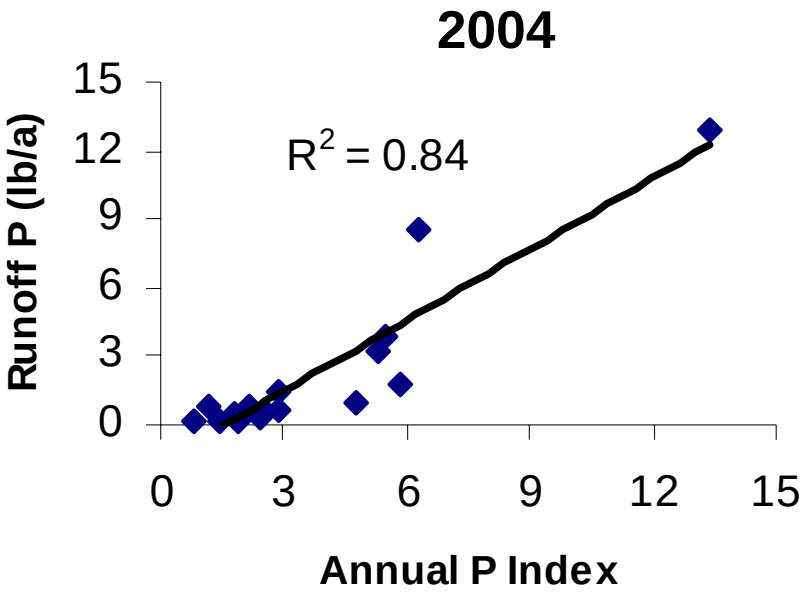
- Leave maximum crop residue
- Minimize soil disturbance

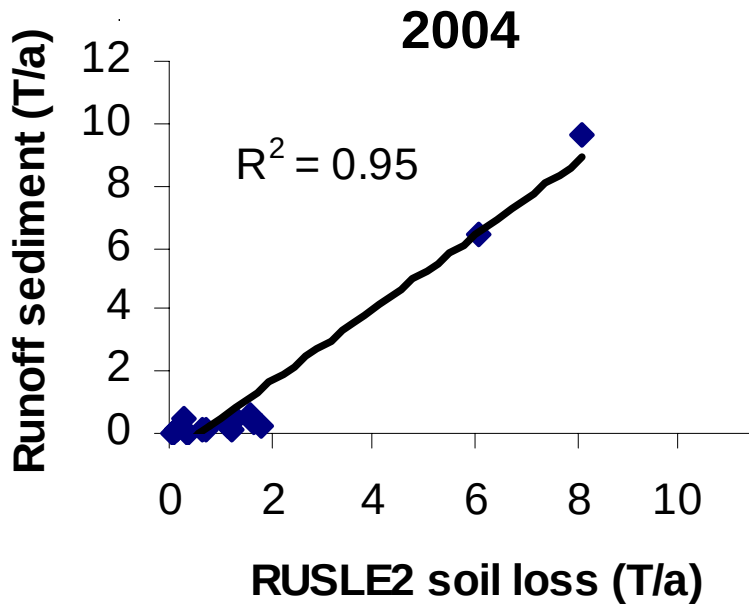
How much will sediment and phosphorus losses increase?

Used soil and phosphorus loss estimation capability of Snap-Plus

- Soil loss estimate - RUSLE2 soil loss
- P loss ranking – P-Index

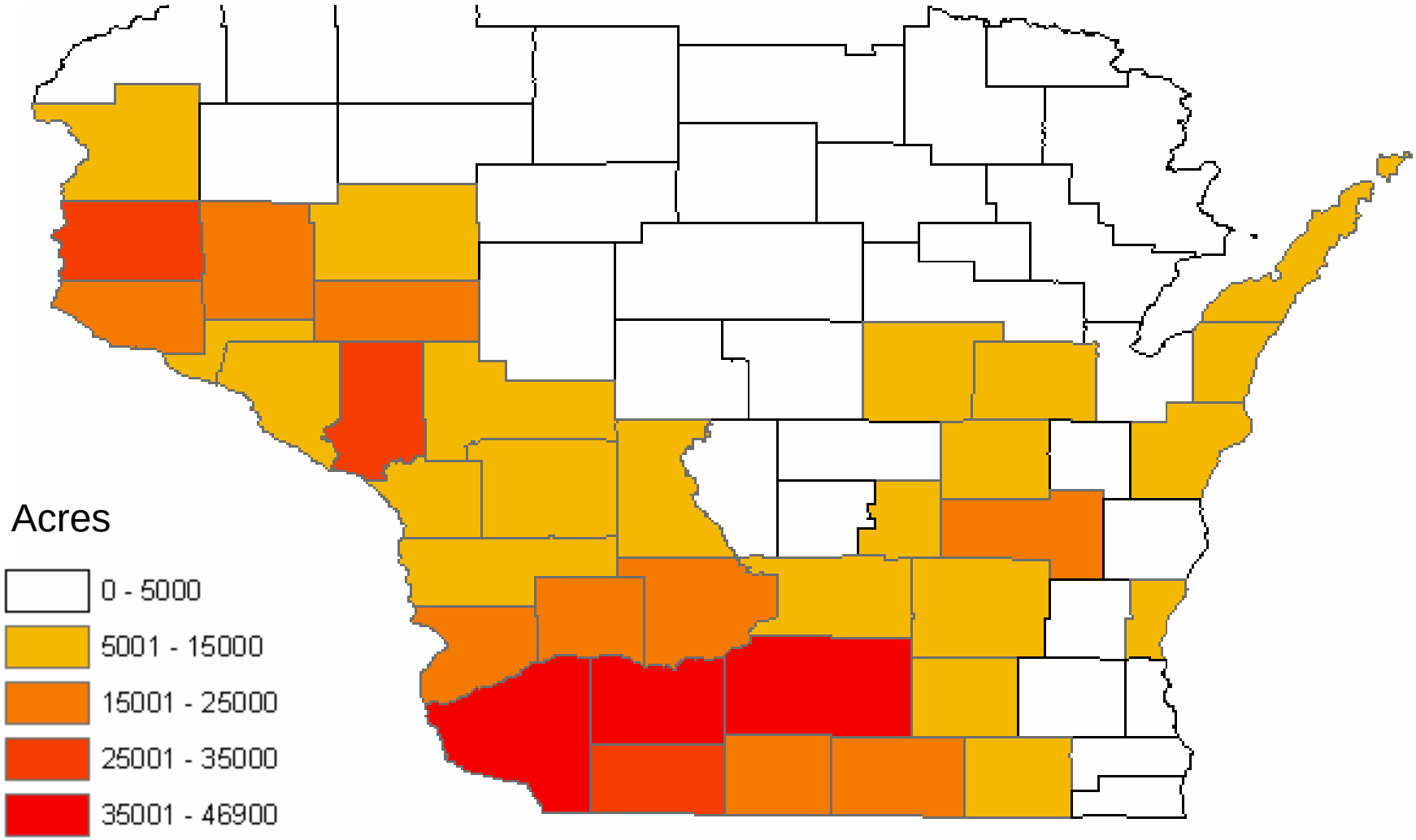
Comparison with monitoring results





Does reasonable job **ranking** fields by erosion and P loss potential

Active CRP Acres by County



Example Fields

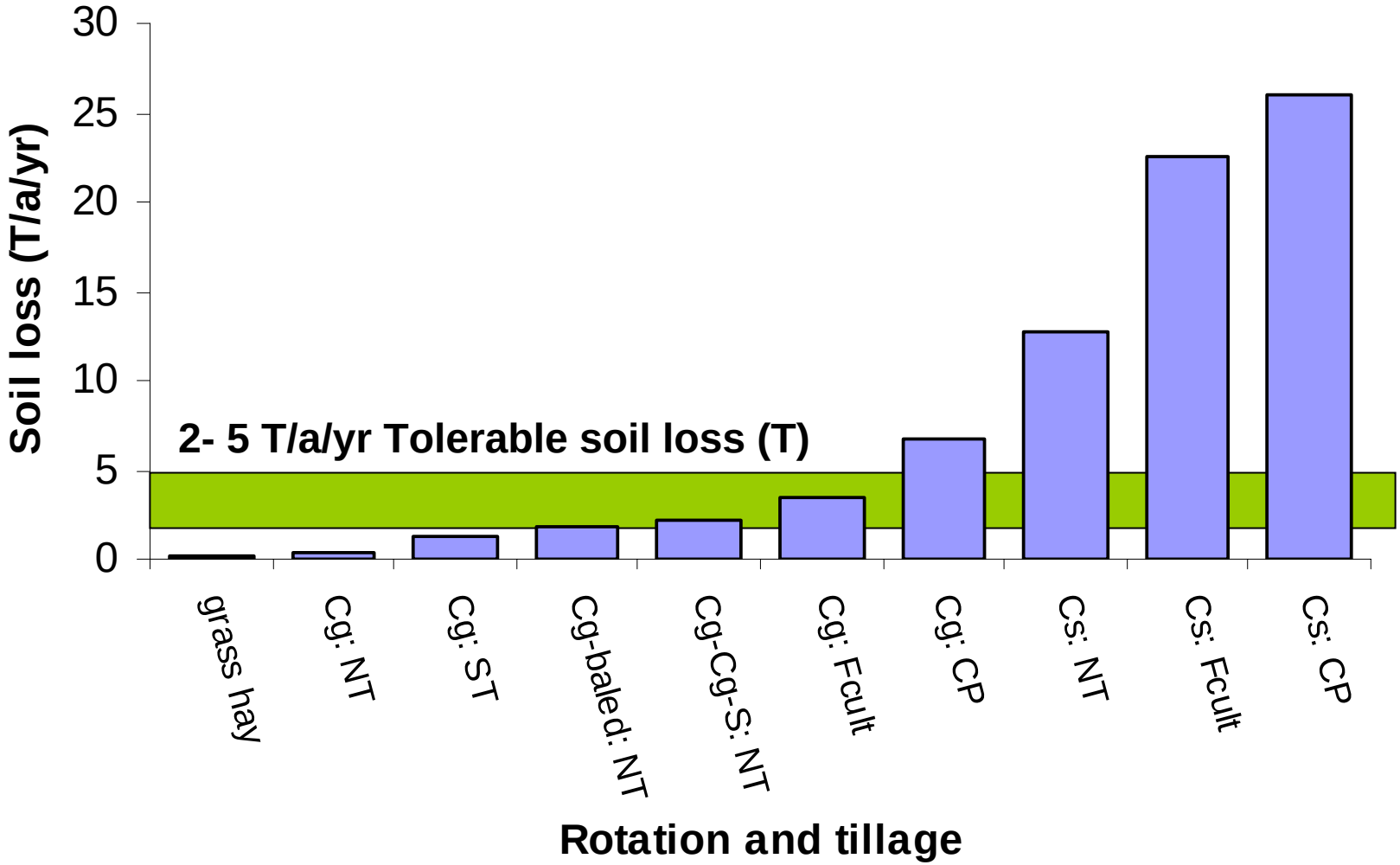
Location (County)	Slope	Field Slope Length	Soil Map Symbol	Soil Name	Surface Texture	Total Soil Loss (T)
	%	*Ft*				*T/a/yr*
St. Croix	16	100	AmD2	Amery	loam	5
Pierce	16	100	167D2	Derinda	silt loam	3
Iowa	14	150	DhD2	Dodgeville	silt loam	4
Grant	12	150	DuD2	Dubuque	silty clay loam	3
Dane	16	100	DuD2	Dunbarton	silt loam	2
Eau Claire	16	85	EmD2	Elkmound	loam	2
Trempealeau	16	150	GaD2	Gale	silt loam	3
Dunn	16	100	275D2	Hayriver	F. sandy loam	3
Fond du Lac	16	100	HmD2	Hochheim	loam	5
Rock	16	100	KdD	Kidder	sandy loam	5
Richland	16	100	254D2	Norden	silt loam	3

Soil test P = 20 ppm, No fertilizer or manure applications

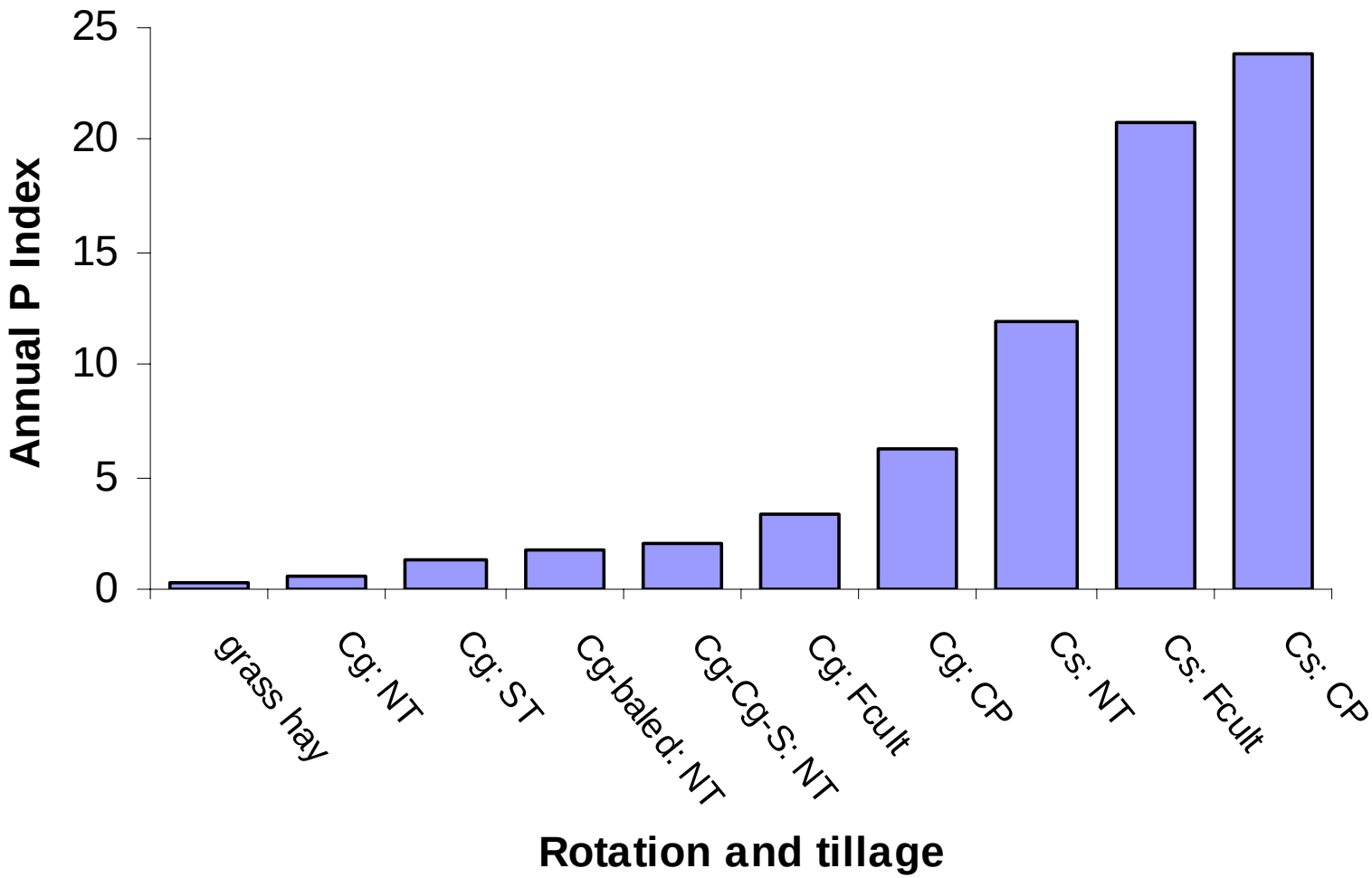
Tillage and Rotations

grass hay	Established grass hay	No tillage
Cg: NT	Continuous corn for grain	No-till
Cg: ST	Continuous corn for grain	Strip-till
Cg-baled: NT	Continuous corn for grain with half stalks baled	No-till
Cg-Cg-S: NT	Corn – Corn –Soybeans (all for grain)	No-till
Cg: Fcult	Continuous corn for grain	One-pass
Cg: CP	Continuous corn for grain	Spring chisel
Cs: NT	Continuous corn for silage	No-till
Cs: Fcult	Continuous corn for silage	One-pass
Cs: CP	Continuous corn for silage	Spring chisel

Average Estimated Annual Erosion

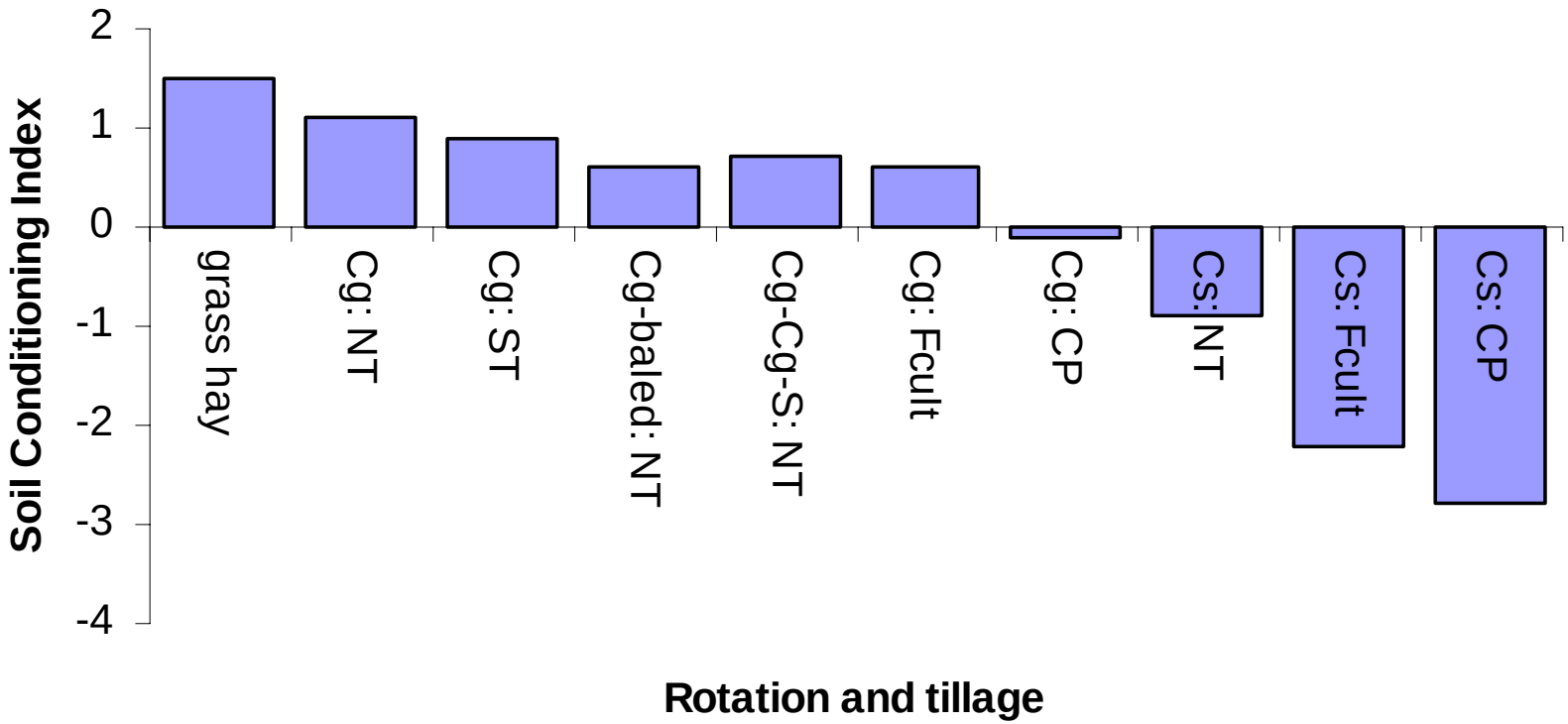


Average Rotational P Index Value



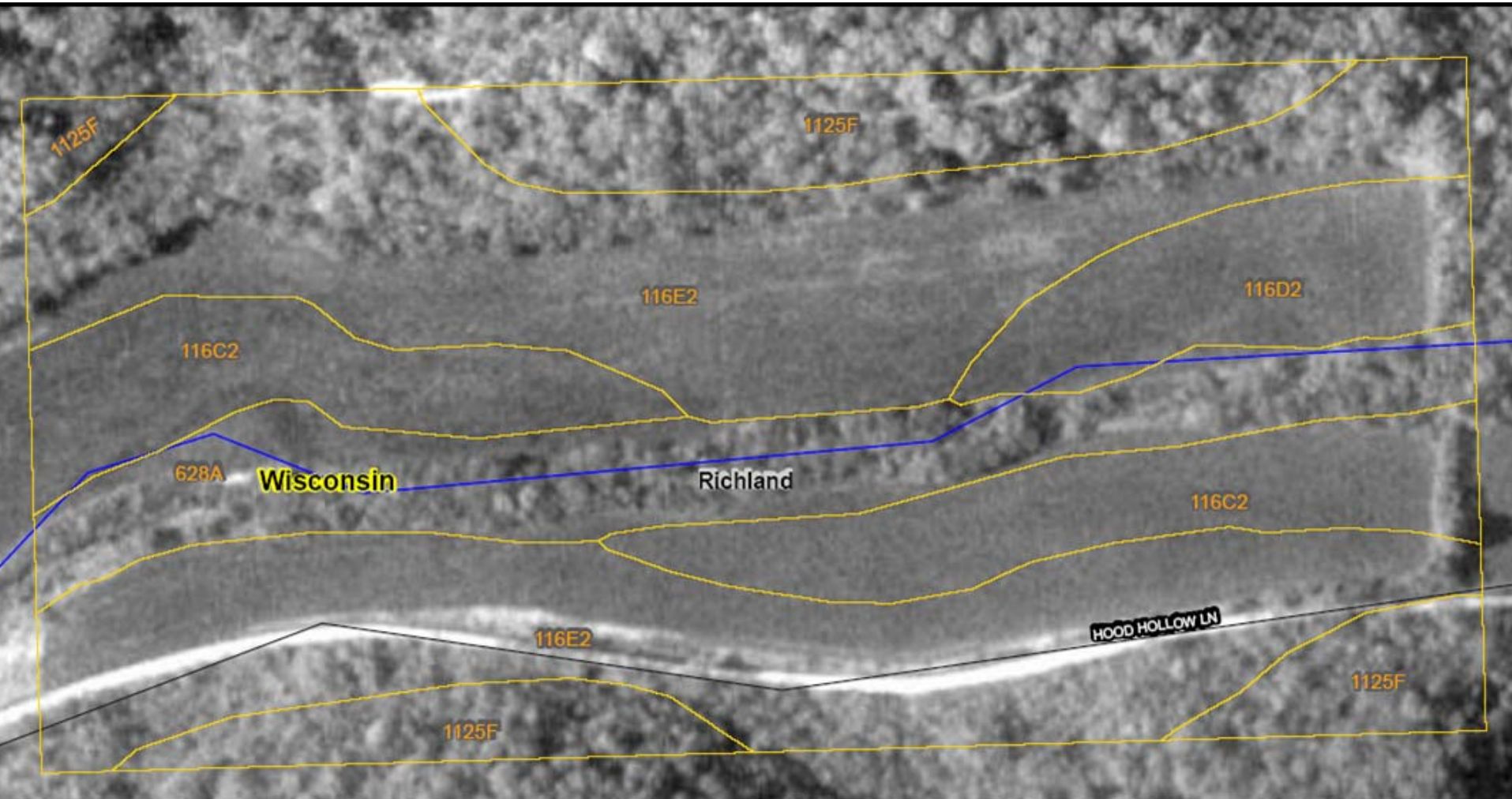
Soil Conditioning Index Values By Rotation and Tillage

Grant County Dubuque silty clay loam, 12% slope



To grow corn on “D” slopes:

- **No-till**
- **Leave at least half of corn plant in field**



Can you replace corn residue with manure if you grow corn silage?

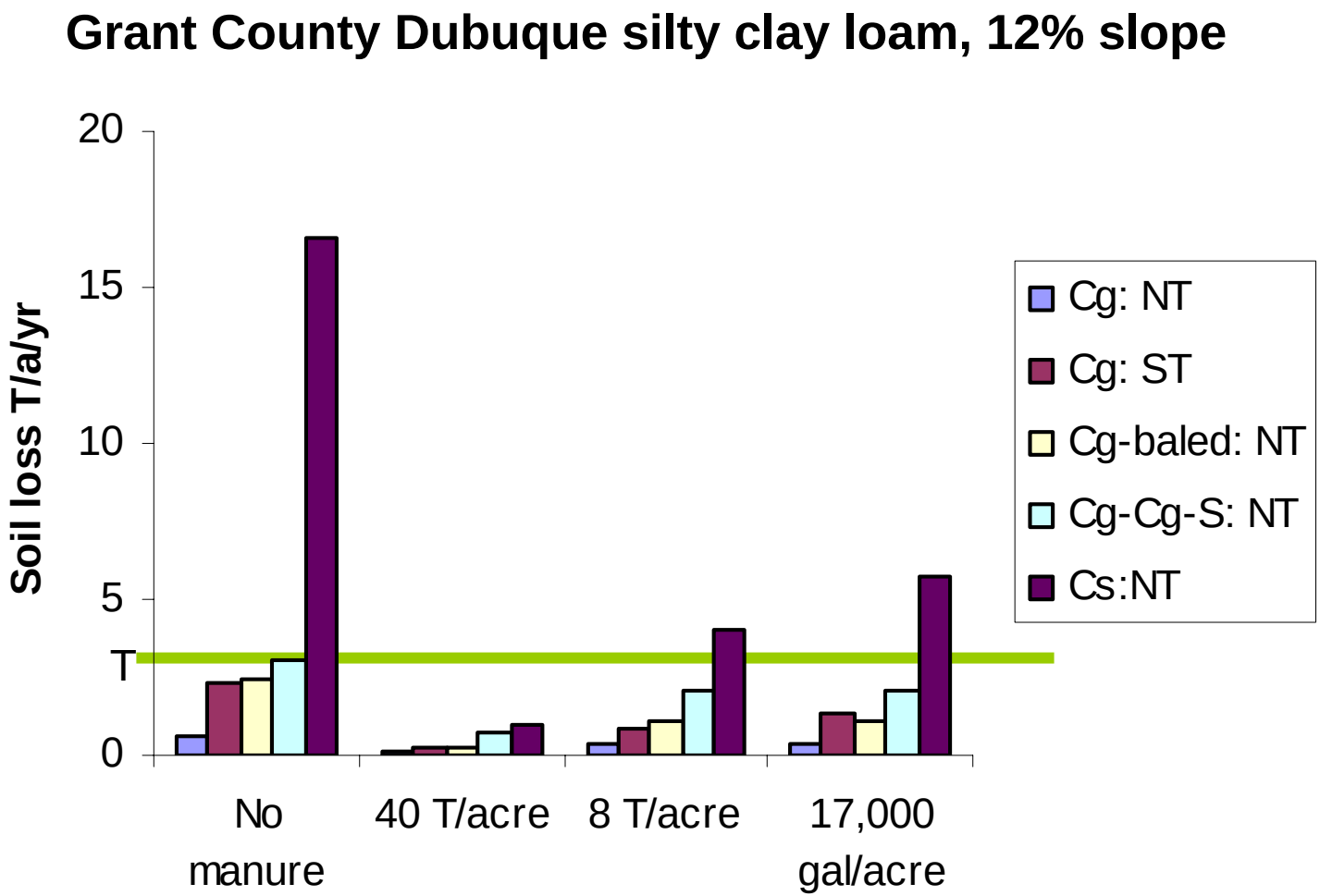
Need high applications of dry matter

Increase risk of nutrient losses

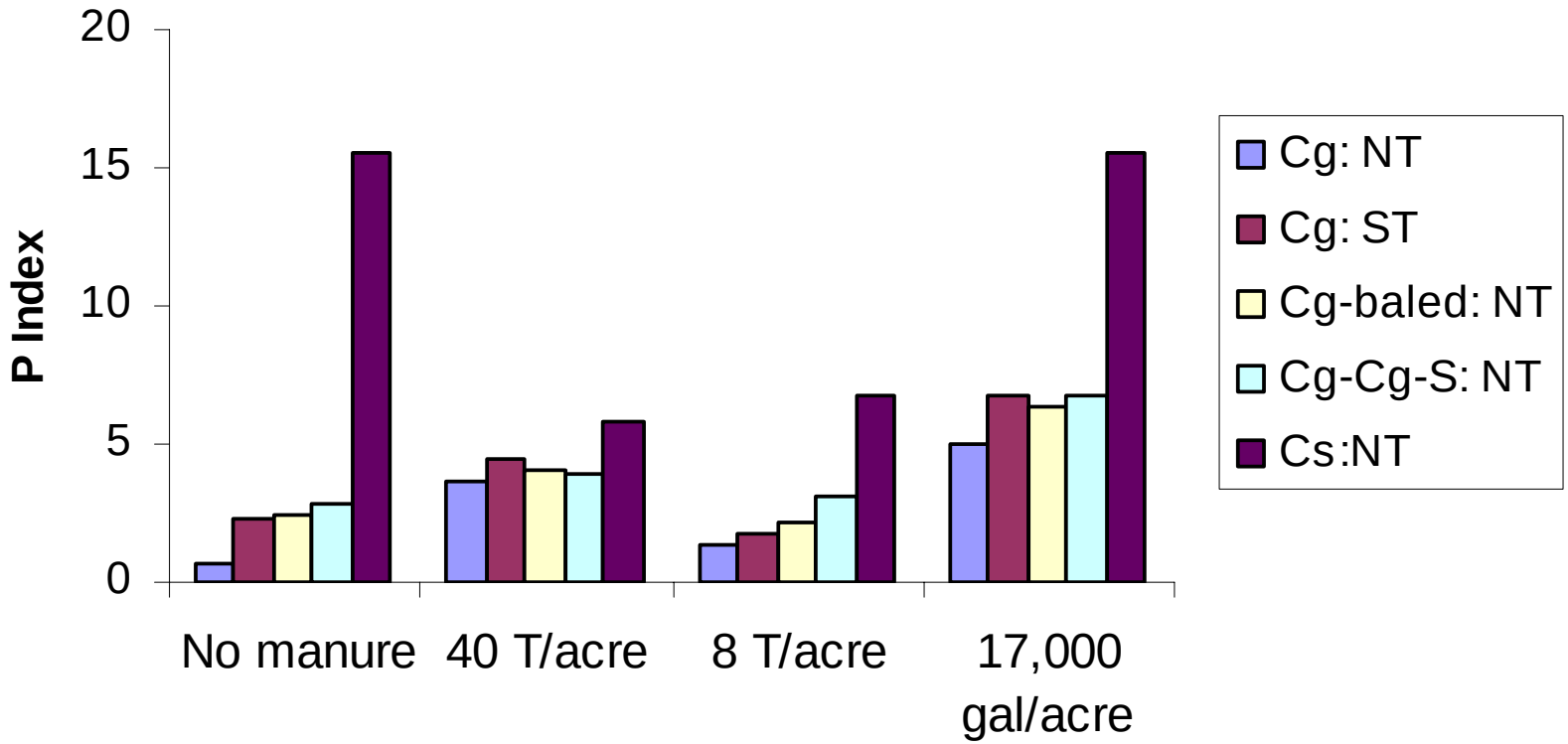
Manure Applications Added to Snap-Plus Runs For Example Fields

- Solid dairy manure (24% dry matter) applied to meet N needs – 40 ton/acre
- Solid dairy manure (24% dry matter) applied to P needs – 8 tons/acre
- Liquid dairy manure (6% dry matter) applied to meet N needs – 17,000 gal/acre

Soil loss estimates with different application rates of unincorporated manure



P Index values with different application rates of unincorporated manure



To keep former CRP fields “in place”

- No-till/strip-till
- Leave at least half of the corn plant

Try this at home!

Use Snap-Plus to look at the effects of varying rotation and tillage on soil and phosphorus loss for any field in Wisconsin

- Download www.snapplus.net