

Wisconsin Soil Test Summary: 2000-2004

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Data obtained from WDATCP approved Labs

Over 685,000 in-state samples analyzed, 2000-2004

Soil pH

Bray-1 P

Bray-1 K

Organic matter

Secondary and micronutrients

Wisconsin DATCP Approved Labs

Providing data for the summary

- A&L Great Lakes Laboratory
- Agsource Laboratory
- Dairyland Laboratory
- Mowers Soil Testing Laboratory
- Rock River Laboratory
- Soil and Forage Analysis Lab – Marshfield
- Soil and Plant Analysis Lab - Madison

Data Summarized by:

Texture code

Soil series

County

Highlights

- 685,916 total samples analyzed
- 338,226 total fields tested
 - Average of 2.03 samples/field
- 48% of fields listed the acreage
 - 2.12 samples/field when acreage indicated
 - Average of 14.84 acres/field
 - 6.99 acres/sample

Average soil test pH, OM, P, and K results by soil texture/type.
Wisconsin, 2000-04.

Texture/Type	Number	pH	OM	P	K
			%	----ppm----	
all soils	685916	6.6	3.2	53	134
coarse	53204	6.3	1.4	80	110
med/fine	624761	6.7	3.0	50	136
> 10% OM	7289	6.3	34.9	84	165
red calcareous	405	7.3	3.1	45	139

Distribution of soil test pH, OM, P, and K.
Wisconsin, 2000-04.

Soil Test	Quartile Estimate*			
	90	75	50**	25
	-----%-----			
pH	7.4	7.1	6.7	6.2
OM, %	4.1	3.4	2.8	2.2
P, ppm	110	65	38	23
K, ppm	219	162	119	88

*Percentage of all soil samples less than estimated value.

**Median value, one-half test higher and one-half lower than this value.

Average soil test Ca, Mg, and Mn results by soil texture/type.
Wisconsin, 2000-04.

Texture/Type	Ca	Mg	Mn
	----- ppm -----		
all soils	1481	383	21
coarse	598	127	17
med/fine	1548	406	22
> 10% OM	3713	685	8
red calcareous*	2009	503	22

* 13 Ca/Mg and 12 Mn samples reported

Average soil test B, S, and Zn results by soil texture/type.
Wisconsin, 2000-04.

Texture/Type	B	S	Zn
	----- ppm -----		
all soils	0.77	7.4	4.8
coarse	0.48	5.7	8.8
med/fine	0.80	7.0	4.2
> 10% OM	1.29	57.8	9.0
red calcareous*			

* no samples reported

Soil Series Distribution

774 Soils in RFS Program

- 5 soils – listed more than 10,000 times
- 8 – 5000-10,000
- 65 – 1000-5000
- 57 – 501-1000
- 85 – 201-500
- 179 – 26-200
- 185 – 1-25
- 190 Soils never used at all in five years

Average soil test P, K, pH, and OM for the top ten named soils.
Wisconsin, 2000-04.

Soil Name	Subsoil	Number	% of soils*	pH	OM %	P ---ppm---	K
Kewaunee	C	25345	7.2	7.1	3.0	34	123
Plano	B	14195	4.0	6.5	3.4	65	174
Hortonville	C	13860	4.0	7.2	2.9	40	126
Withee	D	12563	3.6	6.6	3.5	42	139
Fayette	A	10229	2.9	6.7	2.8	47	123
St. Charles	A	7361	2.1	6.6	2.6	58	137
Onaway	C	7157	2.0	7.1	2.6	45	126
Seaton	A	6229	1.8	6.6	2.5	49	128
Plainfield	E	6223	1.8	6.3	1.4	92	110
Loyal	D	6056	1.7	6.5	3.3	38	129

* Percentage of named soils.

Counties With Most Soil Samples

>20,000

- Dane – 51,391
- Grant – 29,211
- Marathon – 26,007
- Columbia – 23,756
- Brown – 21,819
- Clark – 20,676

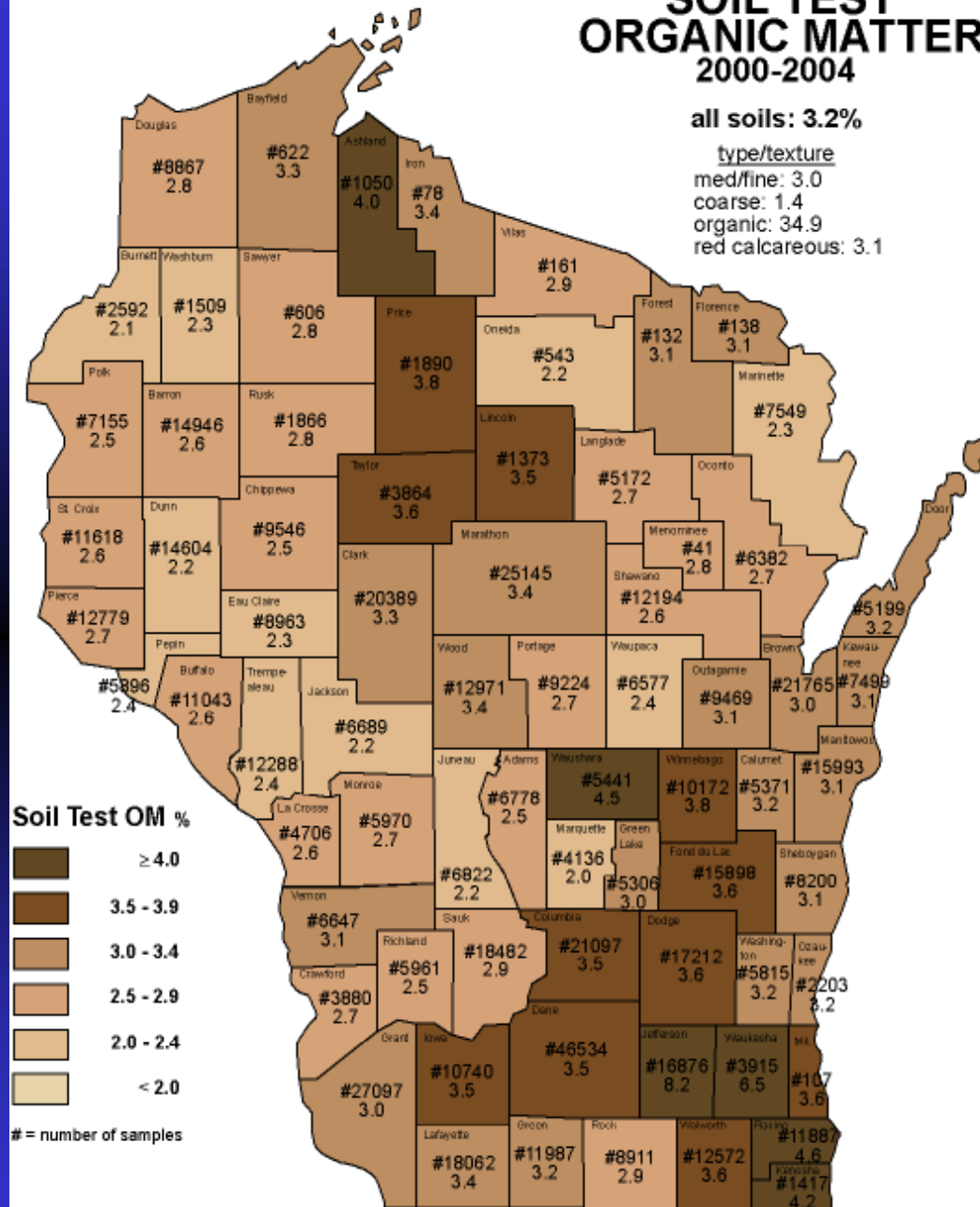
Counties With Fewest Soil Samples <200

- Milwaukee – 183
- Vilas – 161
- Florence – 138
- Iron – 78
- Menominee - 41

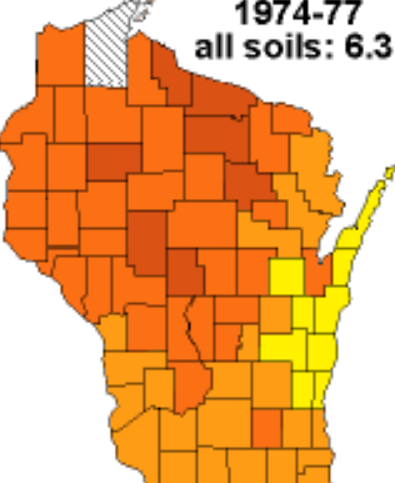
SOIL TEST ORGANIC MATTER 2000-2004

all soils: 3.2%

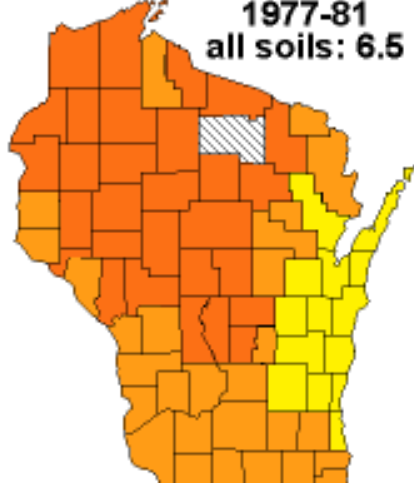
type/texture
 med/fine: 3.0
 coarse: 1.4
 organic: 34.9
 red calcareous: 3.1



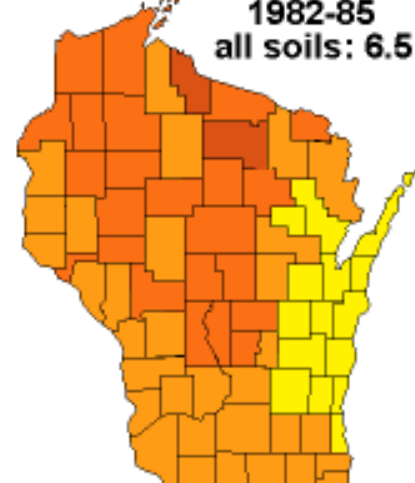
1974-77
all soils: 6.3



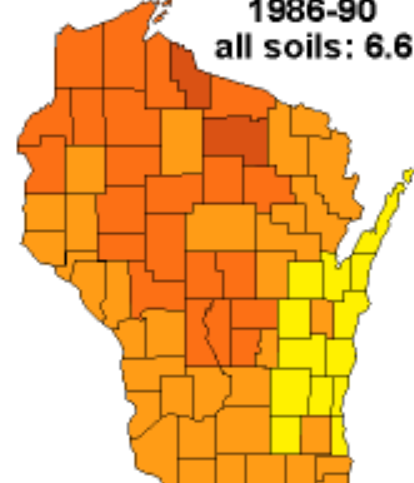
1977-81
all soils: 6.5



1982-85
all soils: 6.5



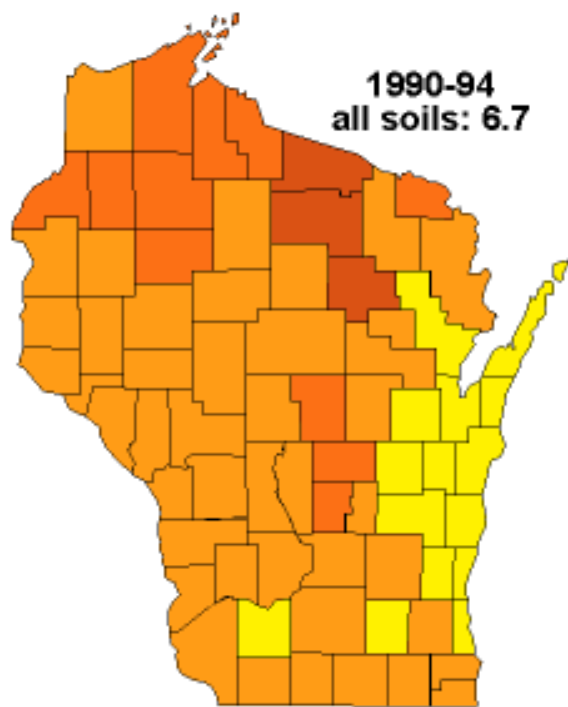
1986-90
all soils: 6.6



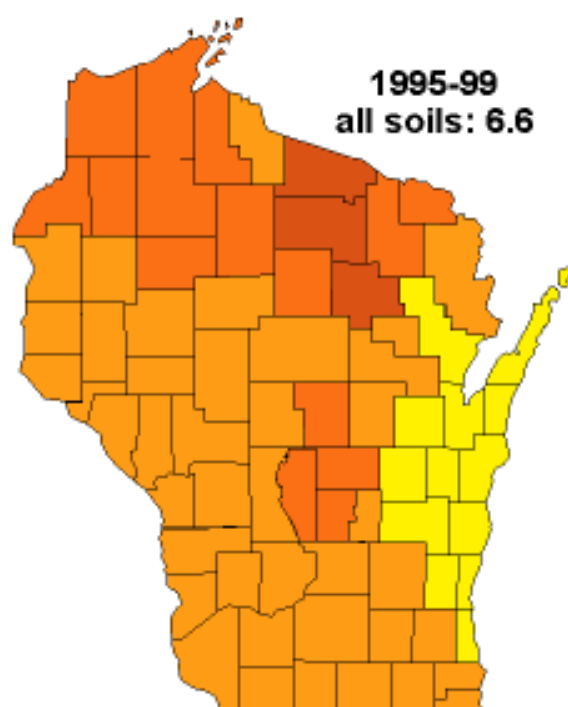
SOIL TEST pH

1974-2004

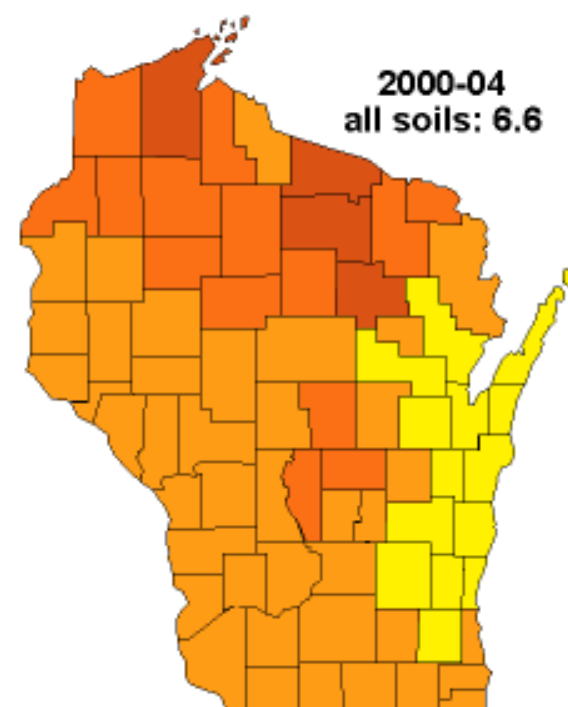
1990-94
all soils: 6.7



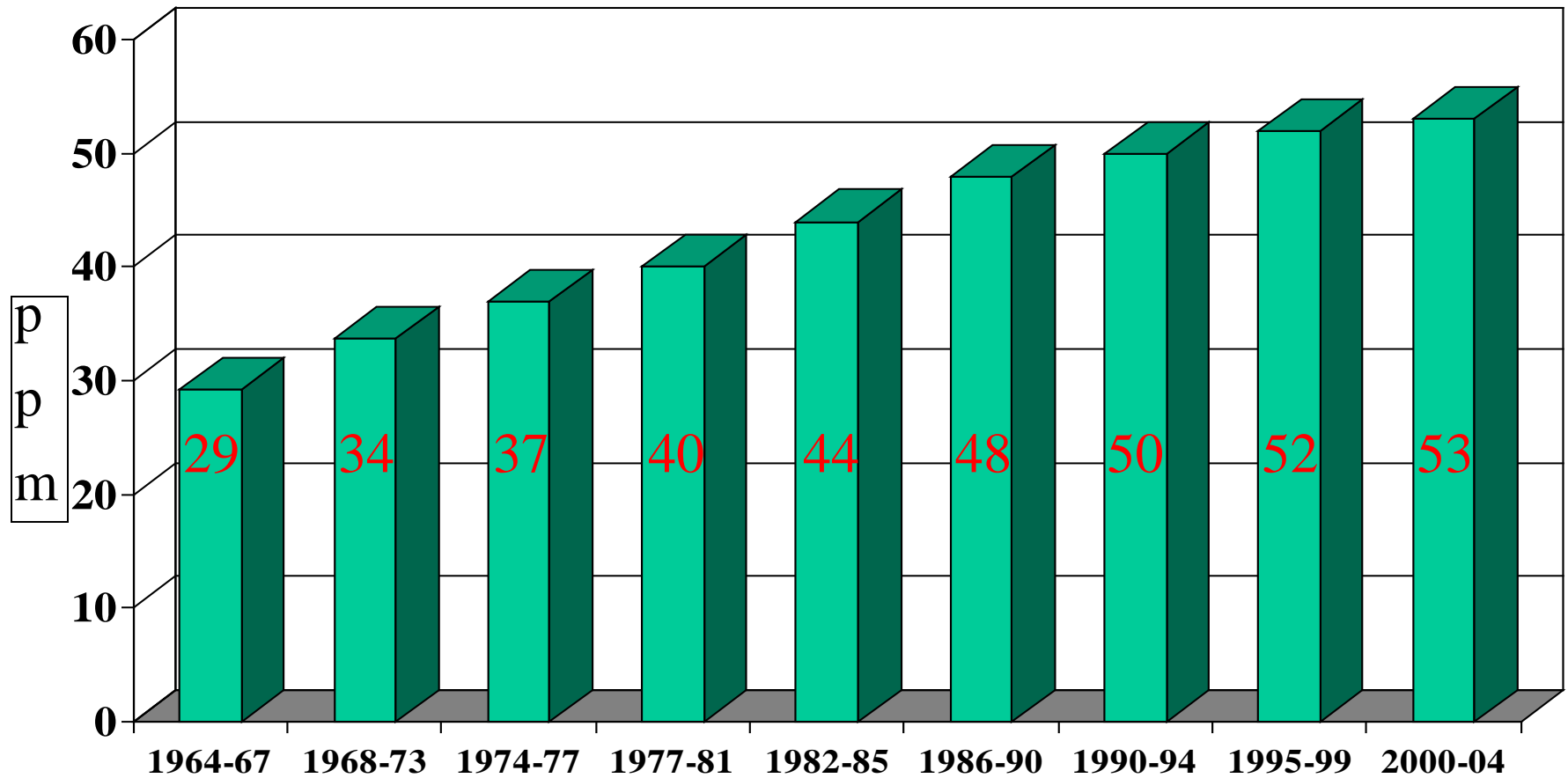
1995-99
all soils: 6.6



2000-04
all soils: 6.6



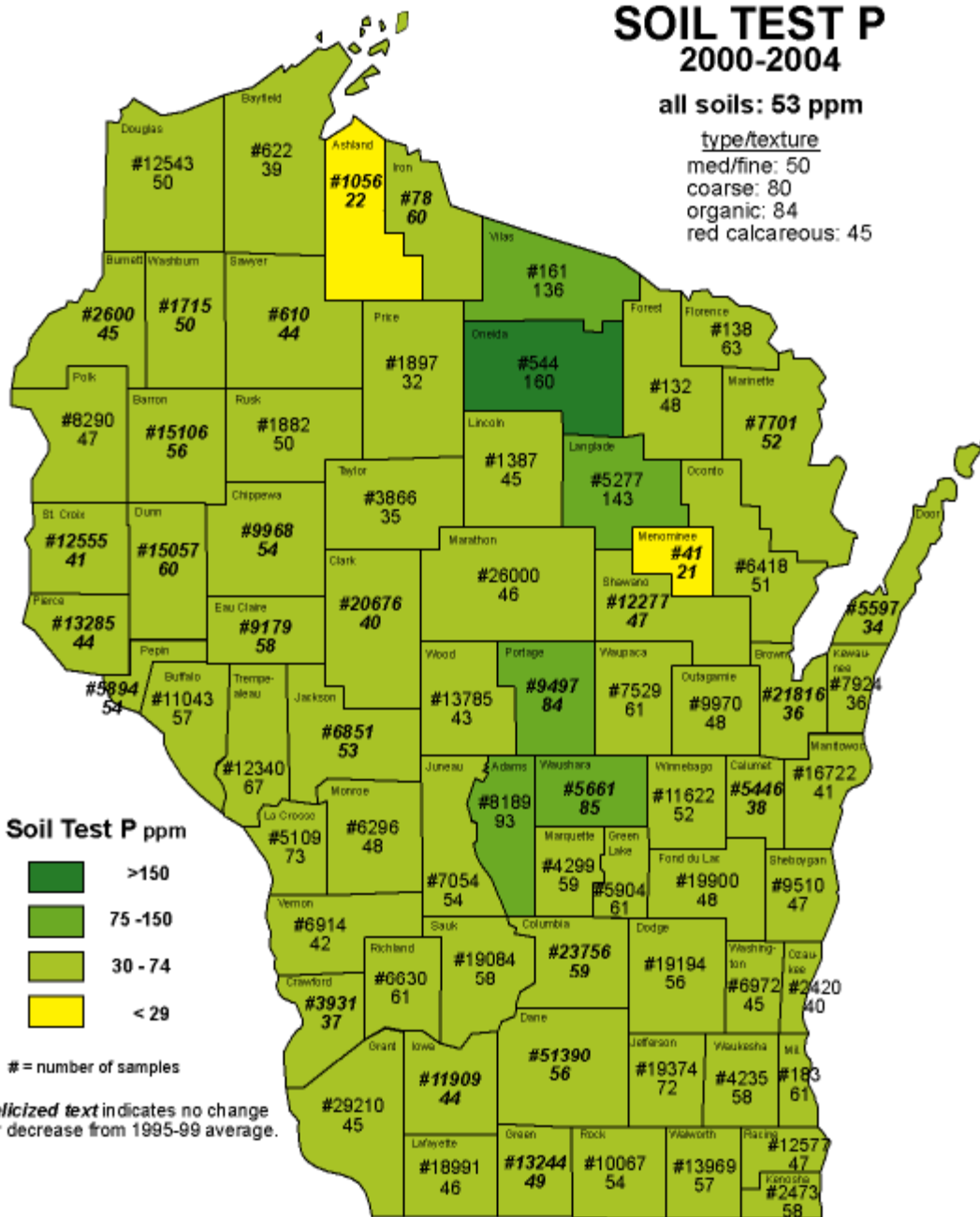
Wisconsin Soil Test P Trends: 1964-2004

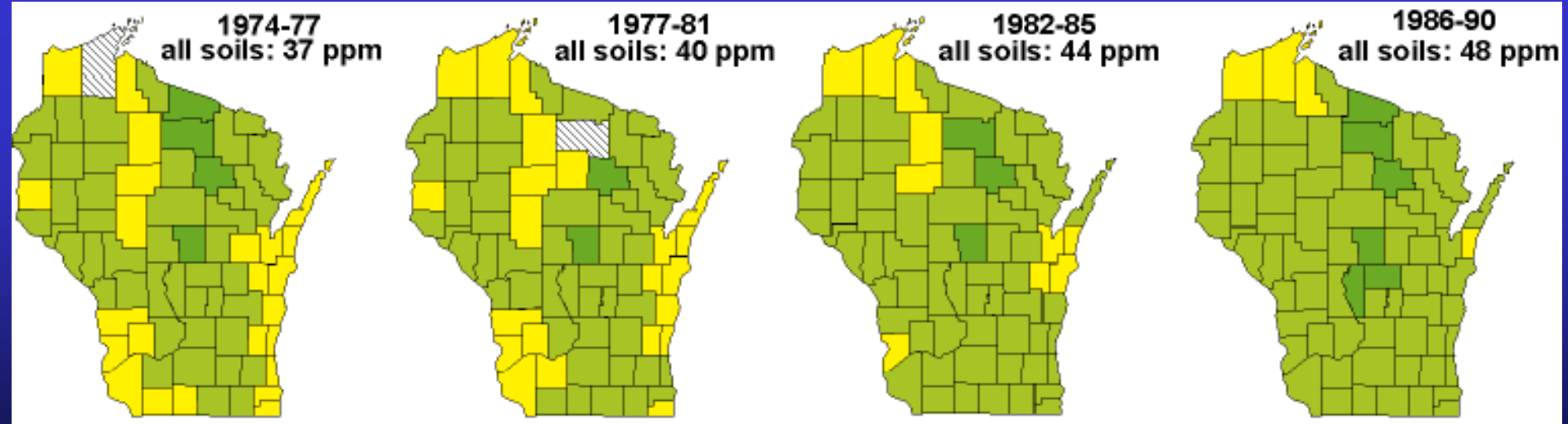


SOIL TEST P 2000-2004

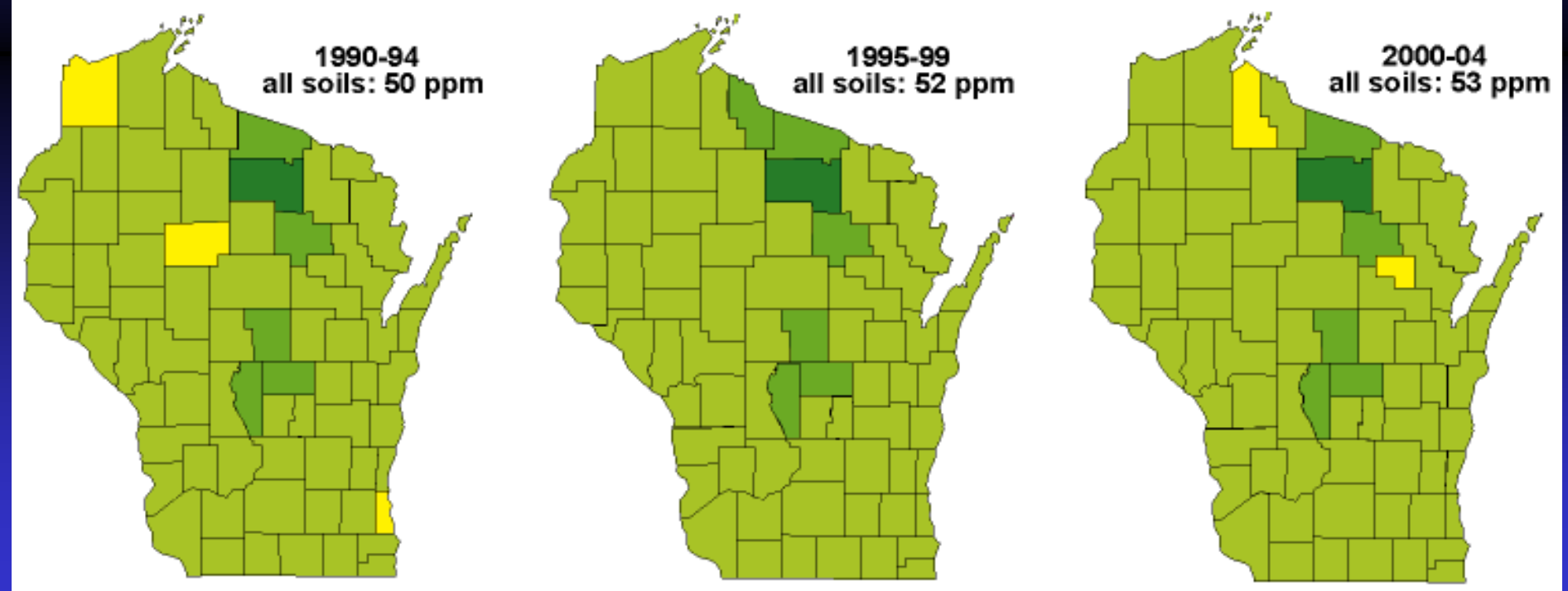
all soils: 53 ppm

type/texture
 med/fine: 50
 coarse: 80
 organic: 84
 red calcareous: 45

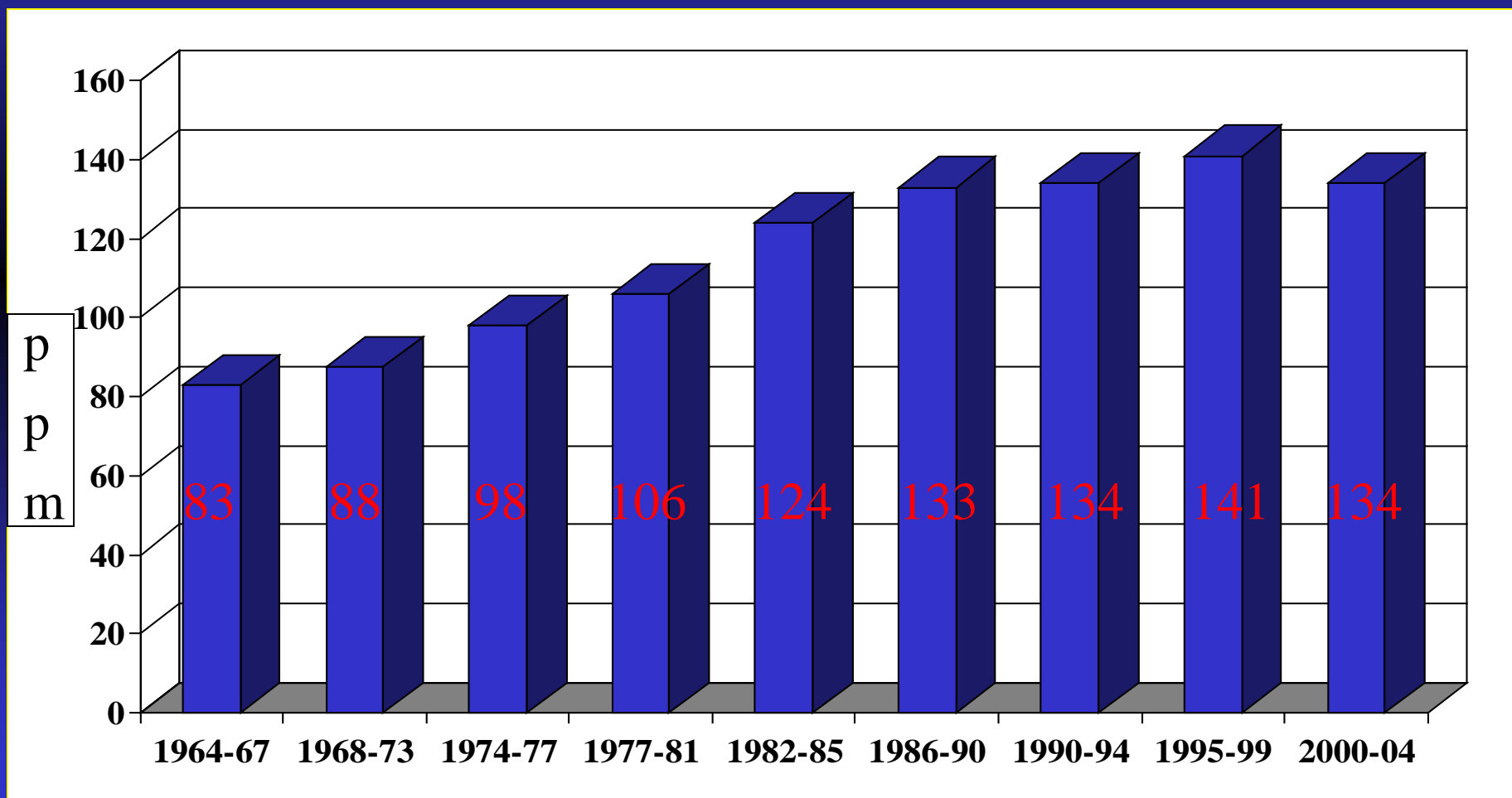




SOIL TEST P 1974-2004



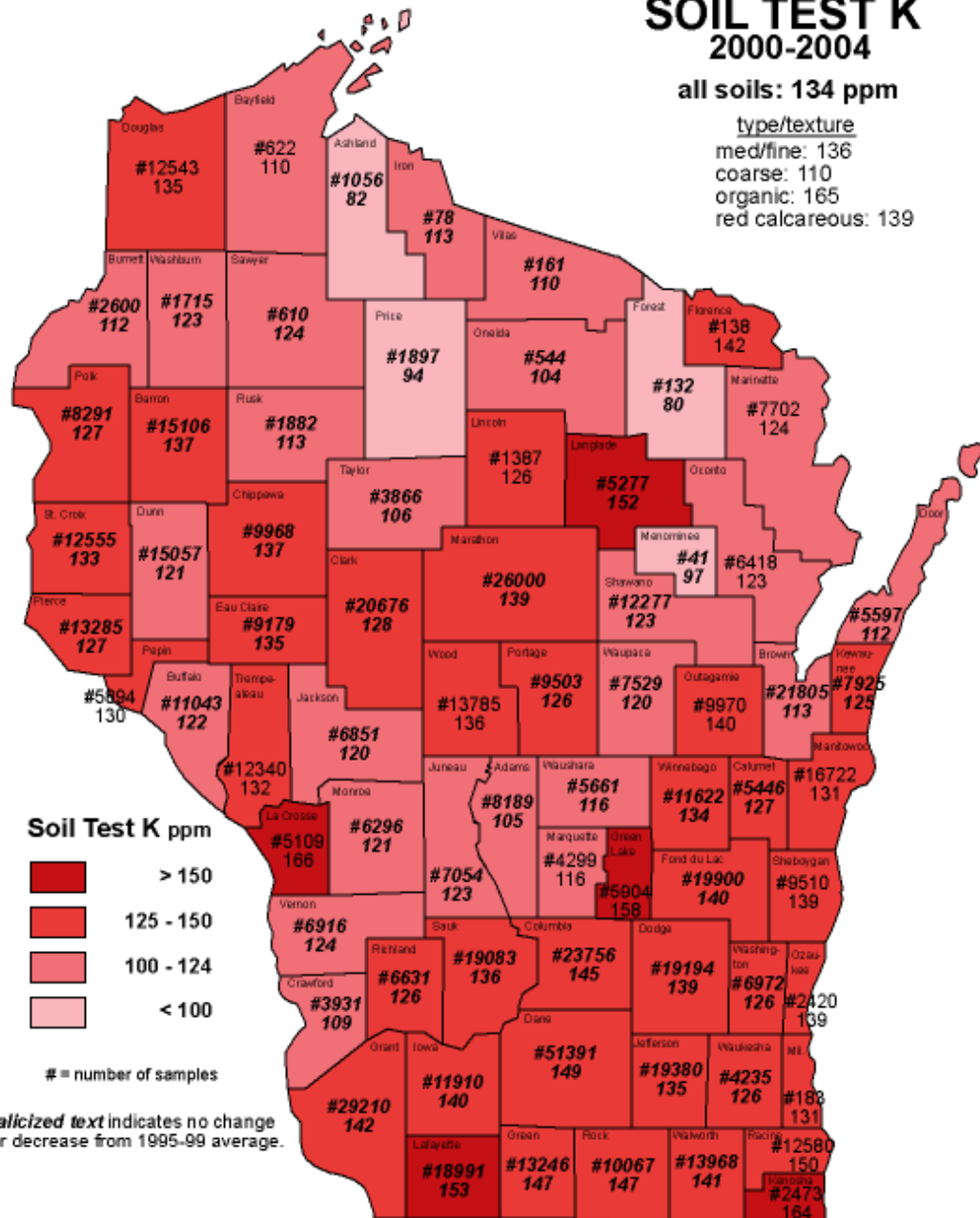
Wisconsin Soil Test K Trends: 1964-2004

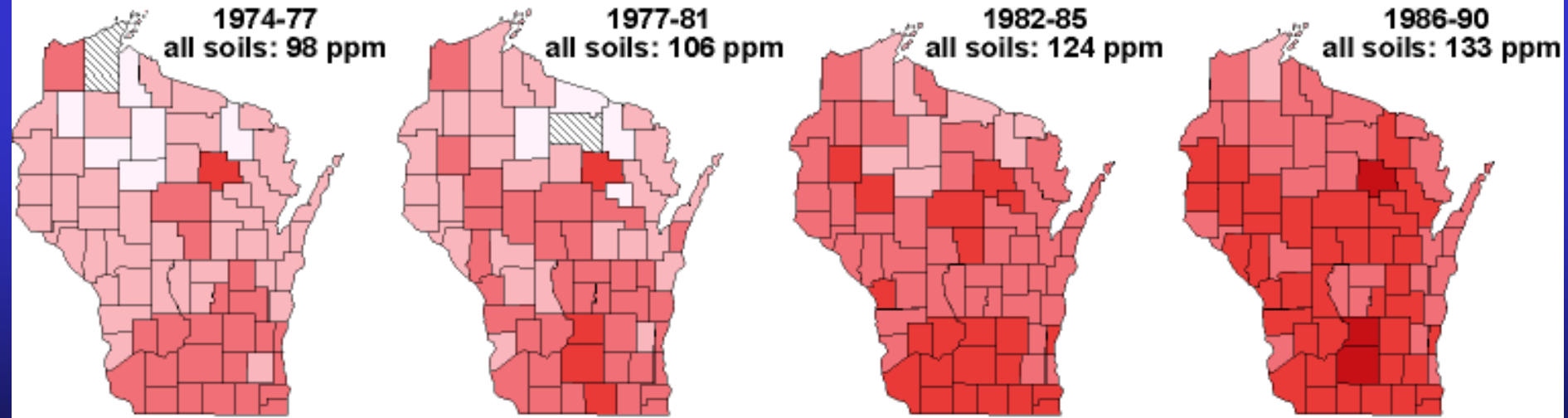


SOIL TEST K 2000-2004

all soils: 134 ppm

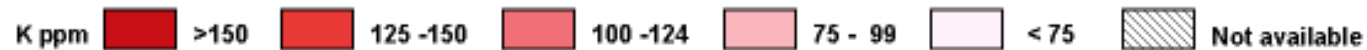
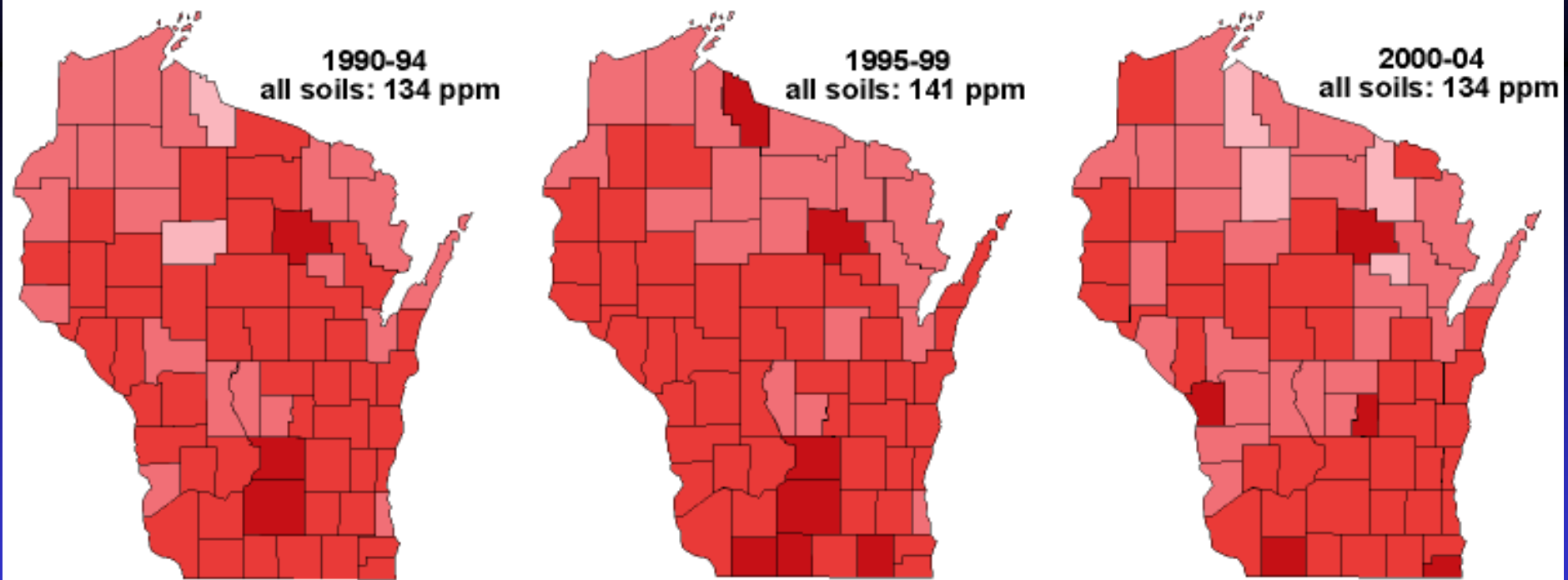
type/texture
 med/fine: 136
 coarse: 110
 organic: 165
 red calcareous: 139





SOIL TEST K

1974-2004



Most Common Crop Codes

- 300,417 – corn, grain
- 221,455 – alfalfa
- 146,711 - soybeans
- 61,343 – oats
- 44,873 – corn, silage
- 38,402 – alfalfa seeding
- 23,757 – wheat
- 8,901 – legume-grass pasture

Least Common Crop Codes

- 12 – celery
- 24 – lupin
- 26 – brussel sprouts
- 28 – flax
- 47 – crown vetch
- 52 – cauliflower
- 56 – popcorn
- 60 - broccoli

Legume Credits

- 159,645 fields list a previous legume crop
- **Only 47% of crops listed were legumes**
- 58,780 listed field corn (erroneously)
- 41,412 listed alfalfa
- 27,375 listed soybeans
- 9,711 listed corn silage (erroneously)
- 3,380 listed wheat (erroneously)
- 2,445 listed alfalfa seeding

Previous Legume Crop

Legume Crop (crop code)	Legume Forage % stand (circle)	Check if more than 8" regrowth in fall
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Manure Credits

- 6,900 fields list a manure application
- 3,159 solid dairy manure, 15 tons/acre
- 2,714 liquid dairy manure, 6000 gal/acre
- 438 solid beef manure, 15 tons/acre
- 212 solid chicken manure, 7 tons/acre
- 116 liquid swine, indoor, 5000 gal/acre
- 64 solid swine, 10 tons/acre
- All others below 50 fields each

Irrigated Fields

- 4,754 fields with 14,470 samples were irrigated – 1.4% of total fields and 2.1% of total samples
- 74% of the irrigated fields listed acreage, which averaged 37.3 acres/field and 11.6 acres/sample

Reduced Tillage

- Less than 1% of fields indicate conservation tillage is used
- Most frequently listed crops include
 - Corn, grain
 - Soybeans
 - Alfalfa
 - Corn, silage

Slope

- 8.6% of total fields indicated a slope
- 29,279 fields average slope was 4.69%
- Median slope = 4.00%

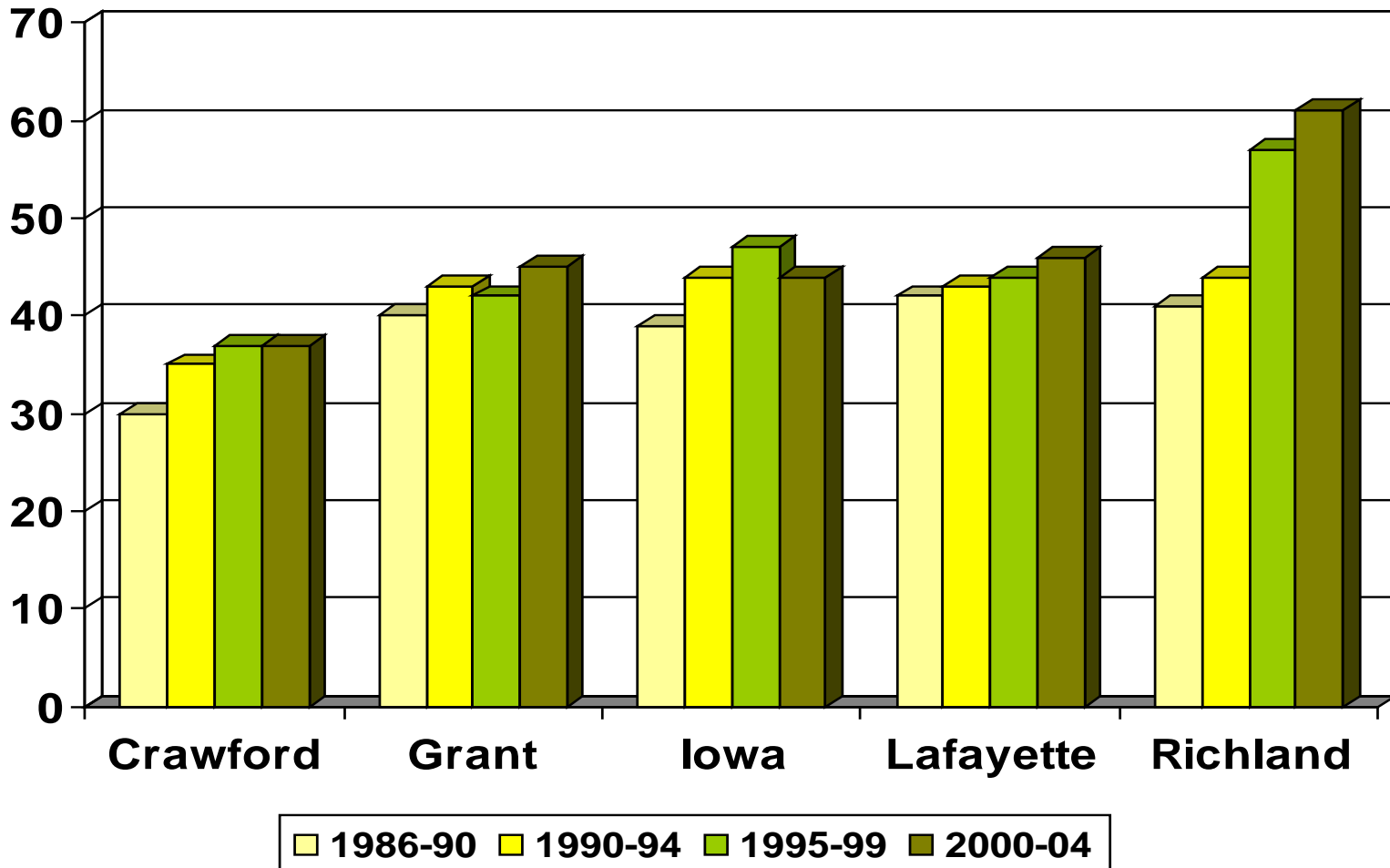
Spring vs. Fall

- Spring 184,410 samples
- *March - June*
- Ave. P – 53
- Ave. K – 129
- Ave. pH – 6.58
- Ave. OM – 3.01
- Fall 498,975 samples
- *July - February*
- Ave. P – 52
- Ave. K – 136
- Ave. pH – 6.67
- Ave. OM – 3.30

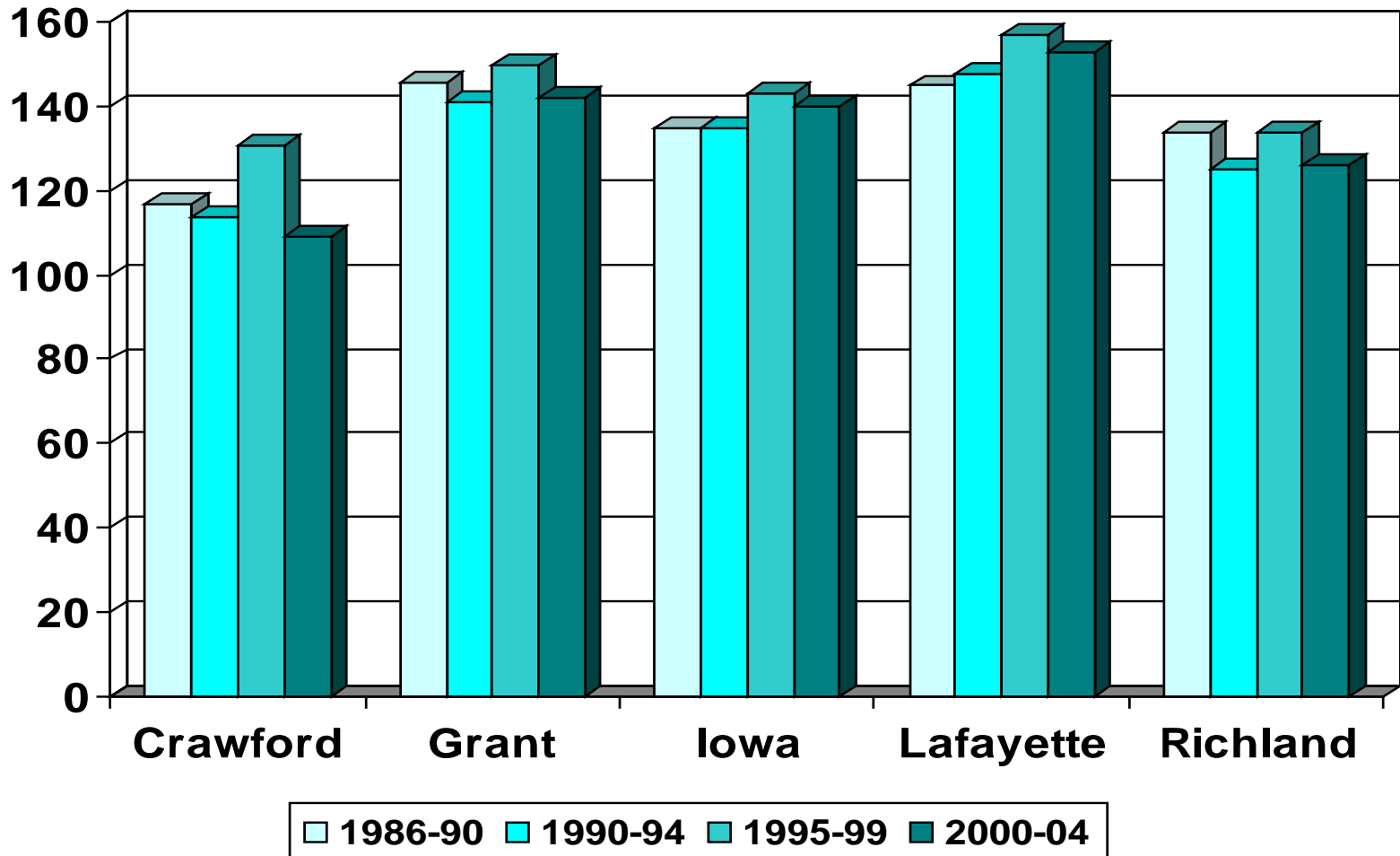
Summary

- Soil test P and K trends indicate improved nutrient management practices are being implemented on more acres.
- Soil test P and K levels are decreasing in many counties, although in many cases these remain above the optimum level.

Regional Phosphorus Averages



Regional Potassium Averages



Regional pH Averages

