Unseeded Acres 2011

Mother Nature and Management Matters!

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Millions of Acres

North Dakota

South Dakota

NW Minnesota

NE South Dakota

Manitoba

Saskatchewan

Factors Affecting Fall Soil Nitrate Levels

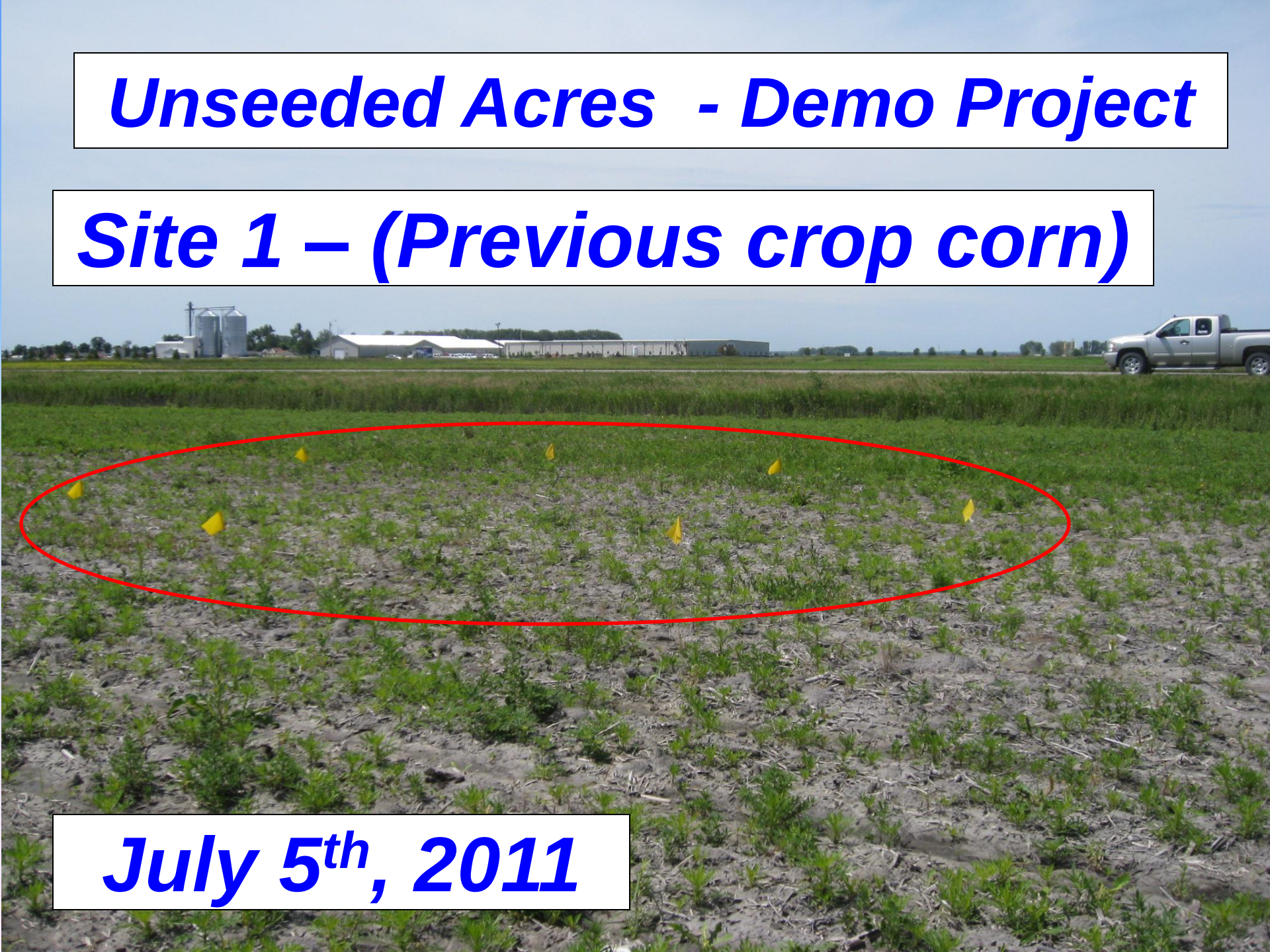
- ***Environmental Factors***
  - Leaching losses
    - Well drained sandy soils
  - Denitrification losses
    - Poorly drained heavy soils
    - Sandy soils with a high water table
  - N from mineralization of OM
    - Cold spring
    - Warm and dry late in summer

Factors Affecting Fall Soil Nitrate Levels

- ***Management factors***
  - Weed Control
    - Chemical (when and how many times)
    - Tillage (when, what implement, how many times)
  - Previous Crop (2010)
    - Legume or grass
    - N- soil test fall 2010
  - N fertilizer applied in 2010?
    - Fall or spring
    - Application – banded anhydrous – broadcast urea

Unseeded Acres - Demo Project

Site 1 – (Previous crop corn)



July 5th, 2011


Debris from Northwood - 20 foot circle (Tornado Aug 2007)


July 18
Tillage then 3” rain


July 25


August 5
Tillage


August 15


August 22


September6
Tillage then seeded to winter wheat


September 19

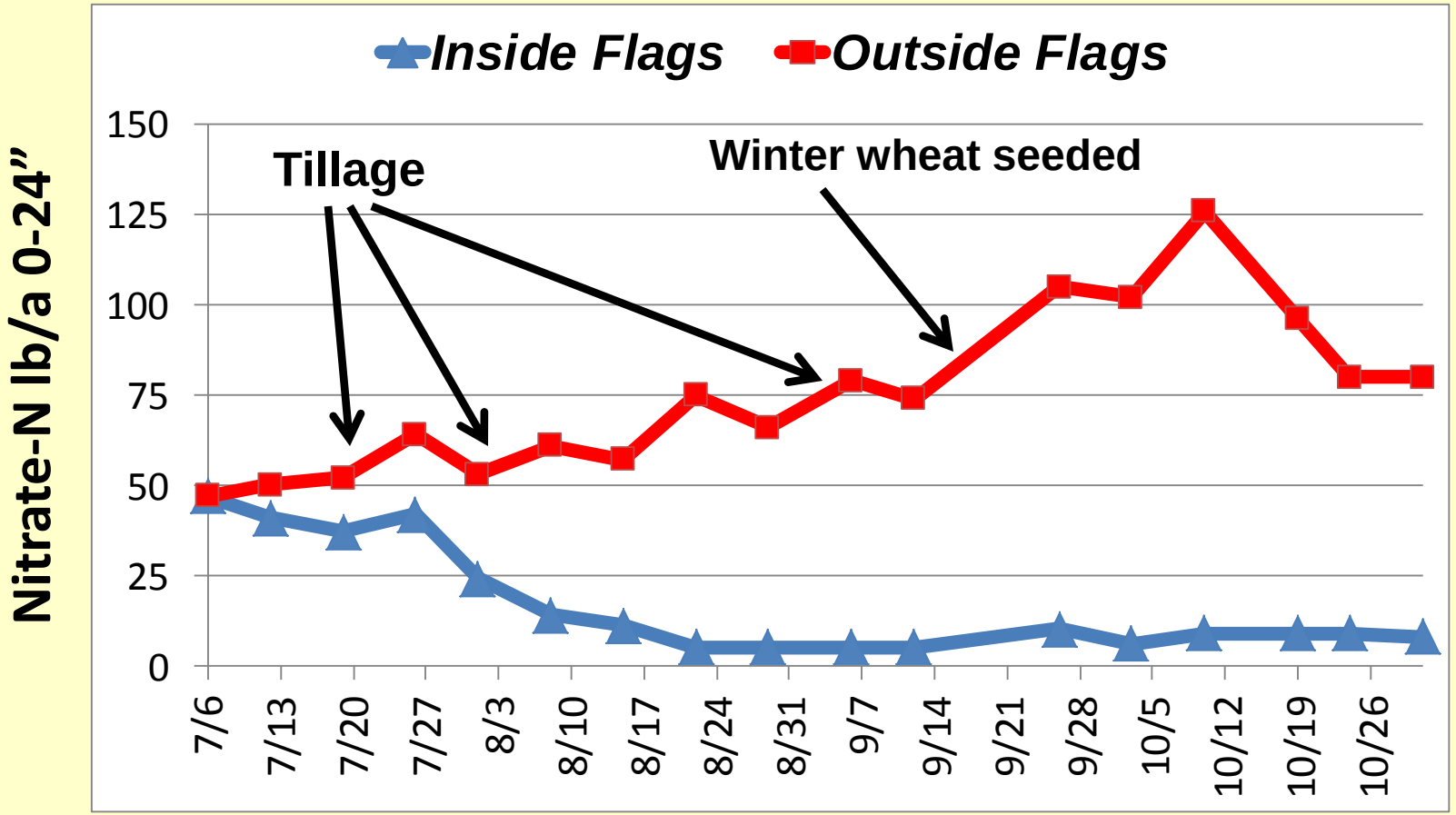
September 25

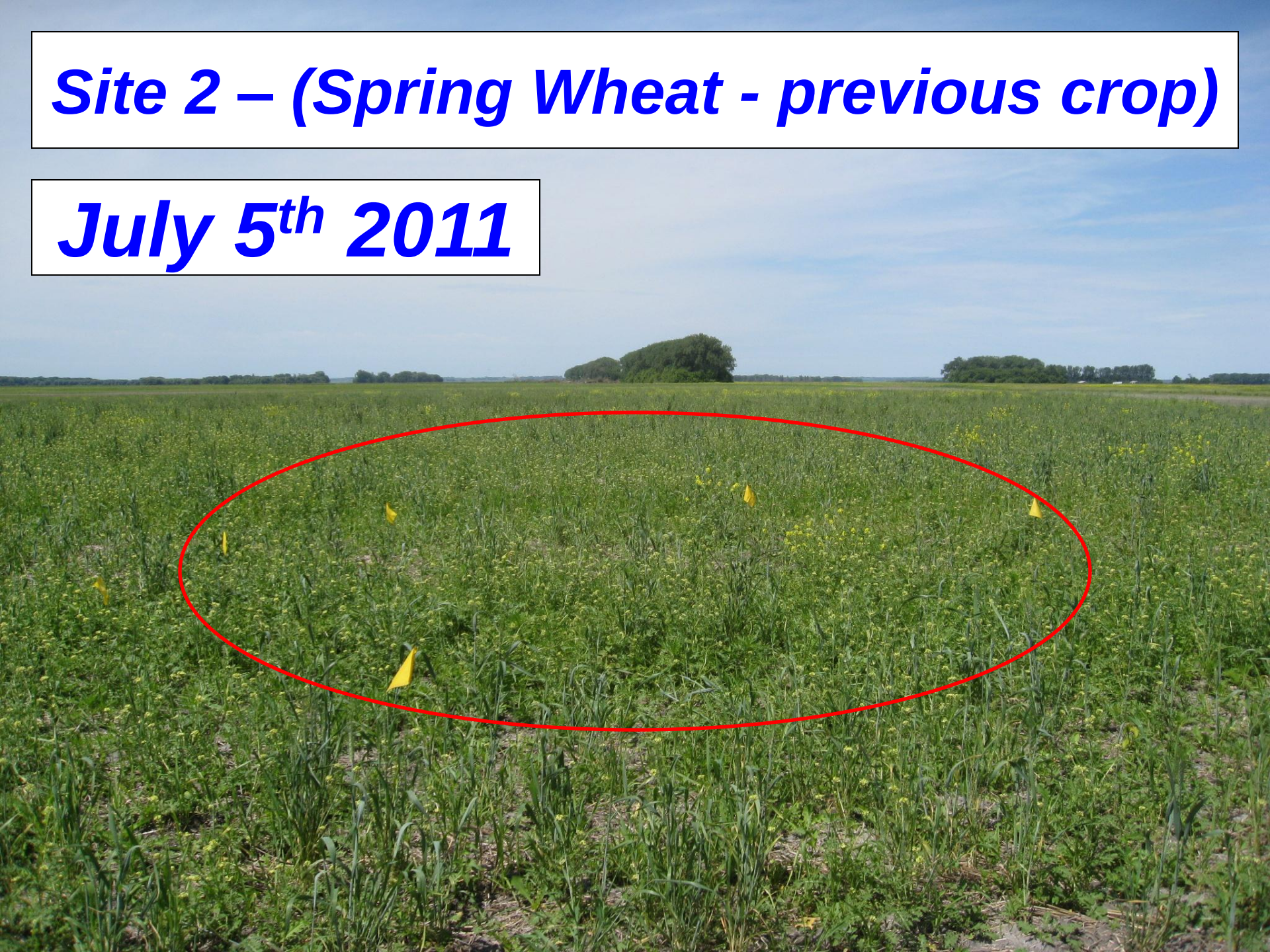
October 2

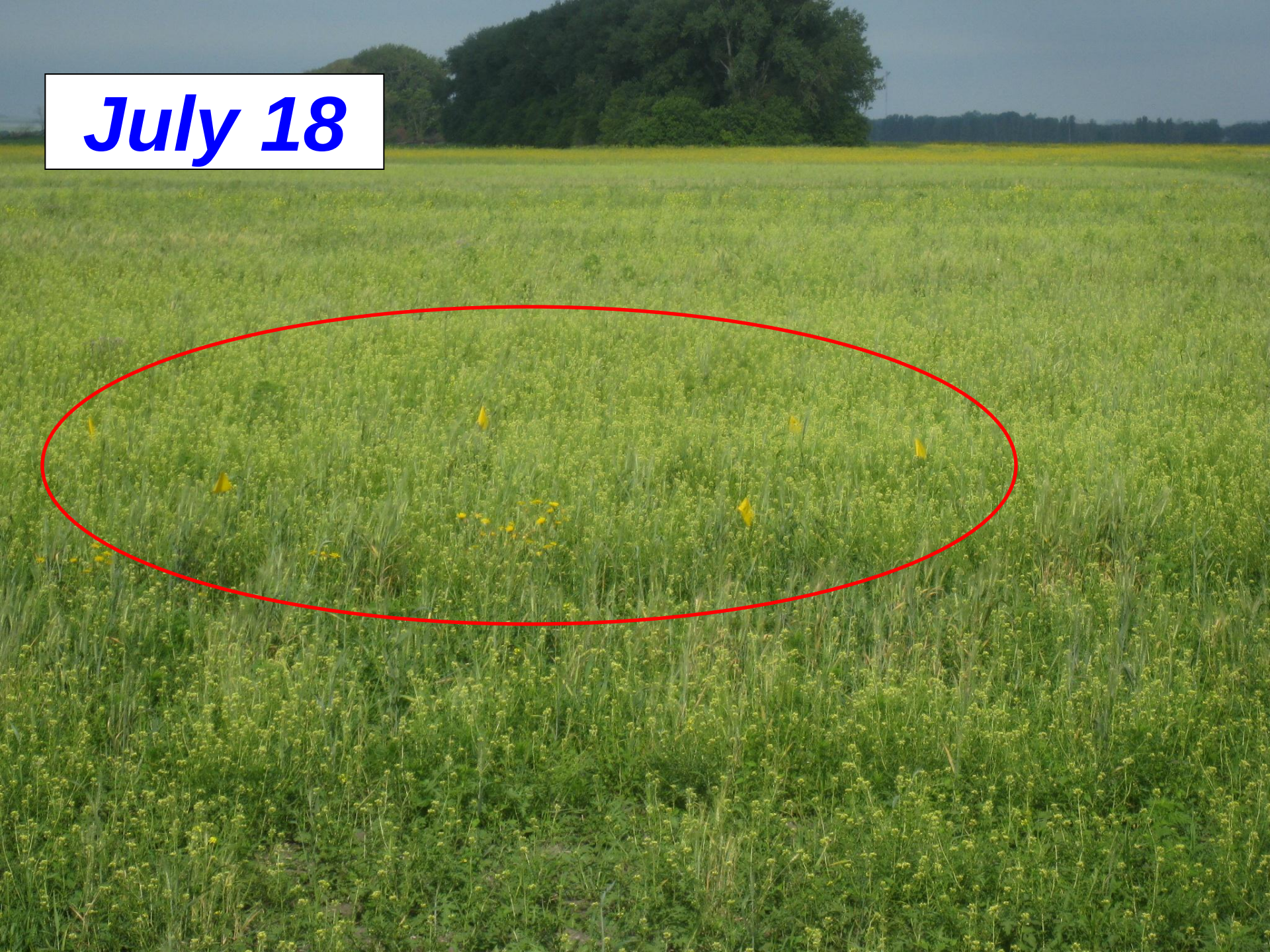
October 9

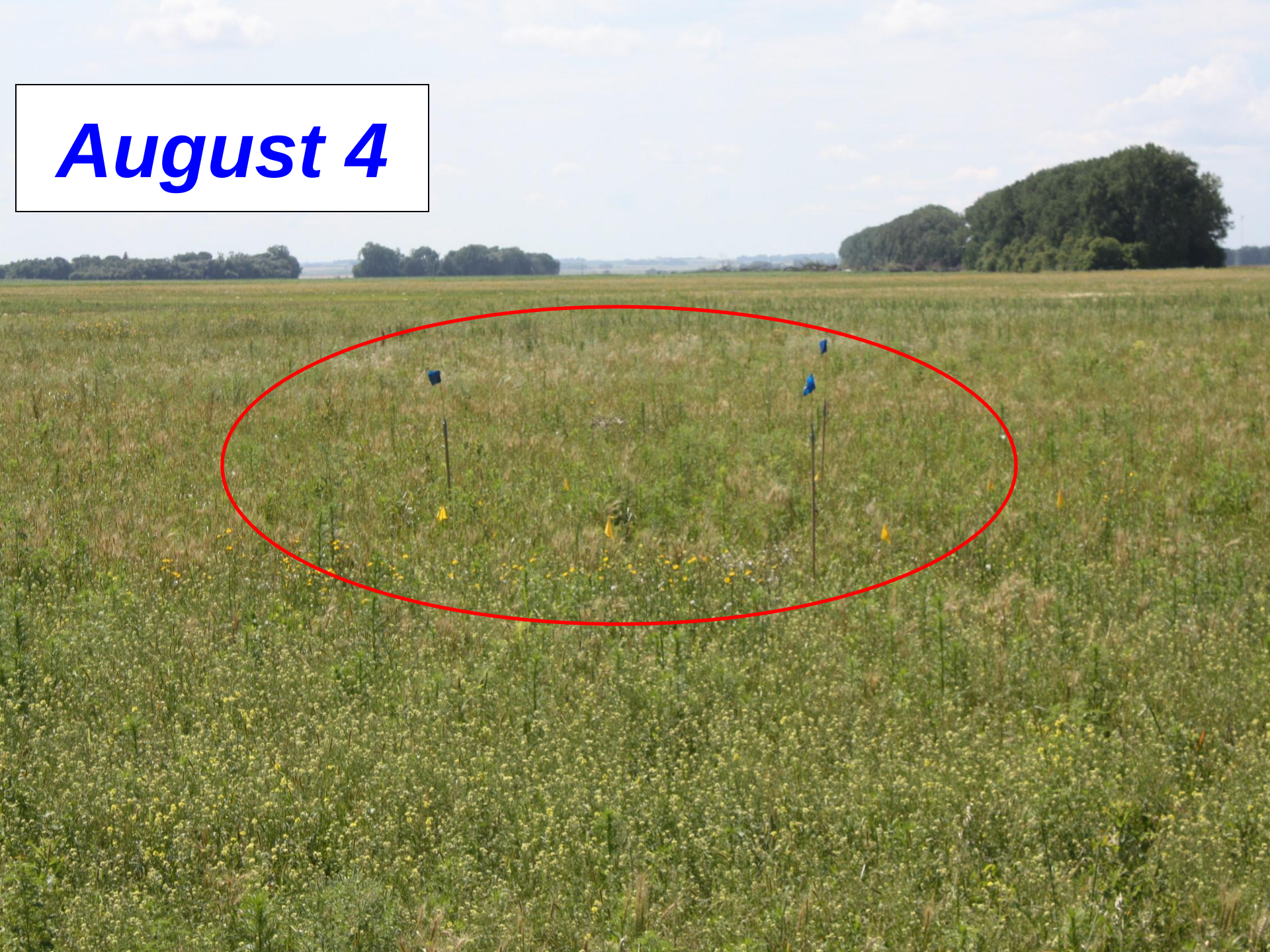

October 31

Soil Nitrate-N – Unseeded Field Site 1

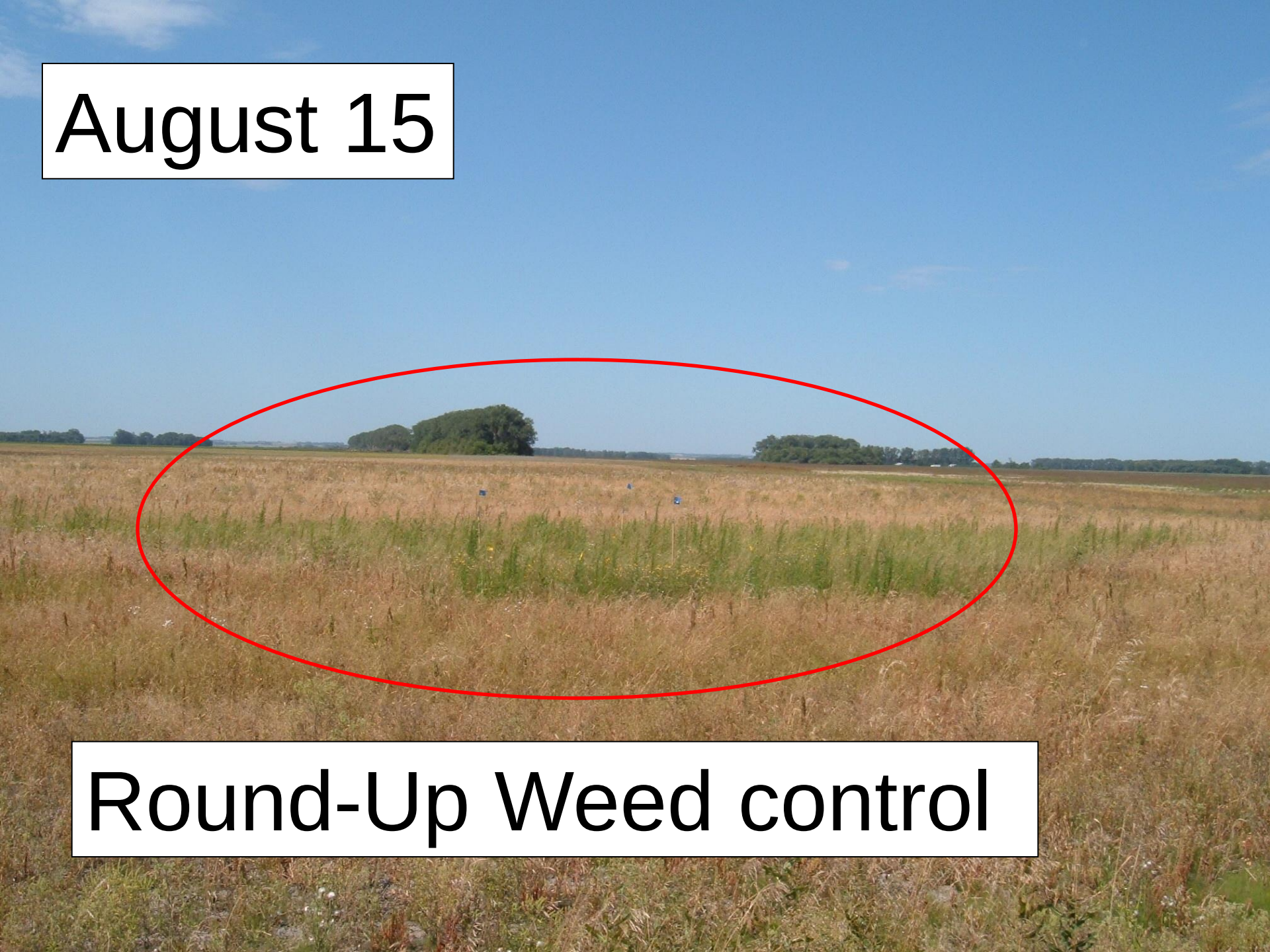



Site 2 – (Spring Wheat - previous crop)
July 5th 2011


July 18


August 4


August 8


August 15
Round-Up Weed control


August 28


September 6
Dead weeds chopped/mowed


September 11


September 19


September 25
Winter wheat seeded – No burn down

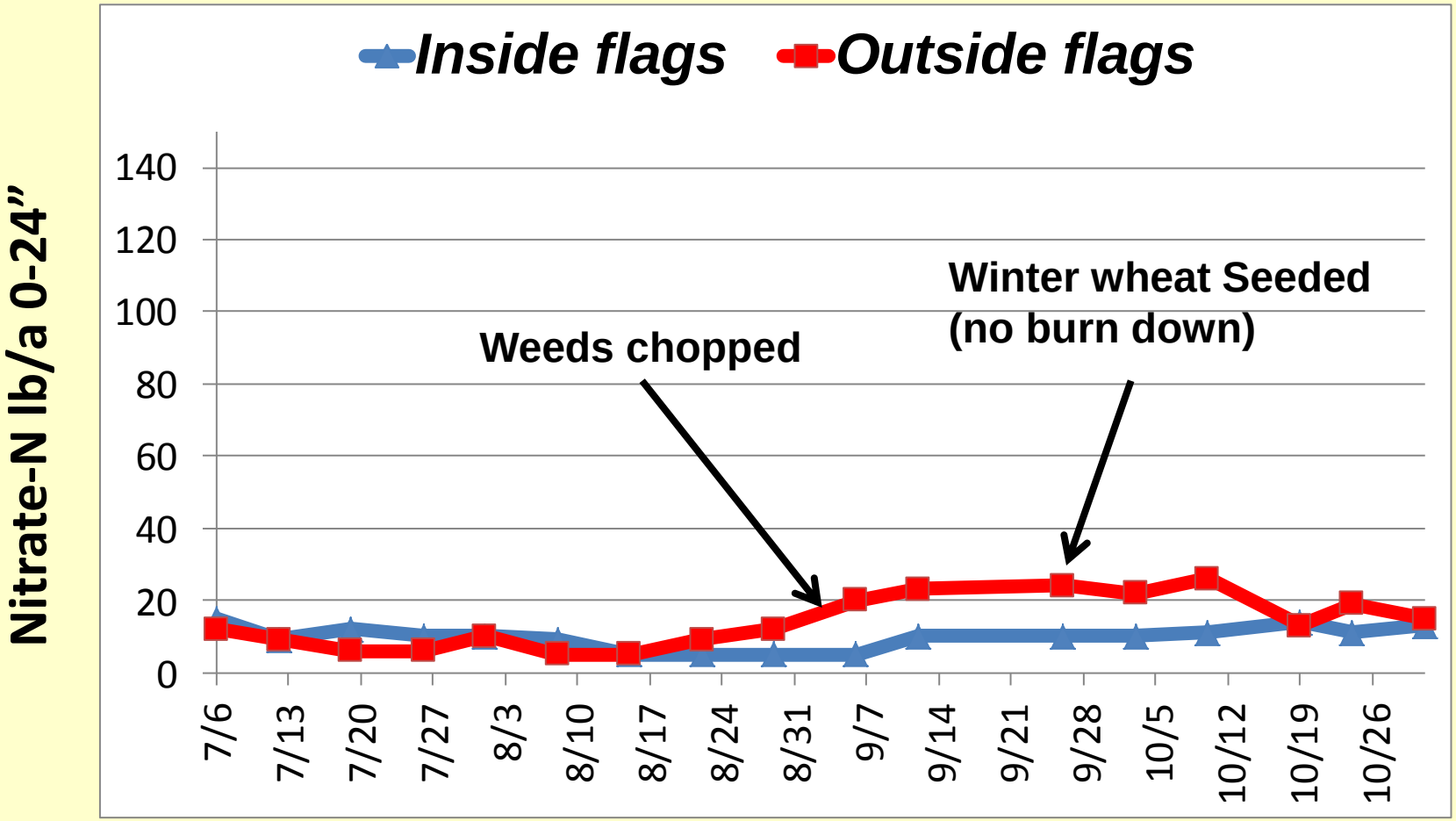

October 2


October 9

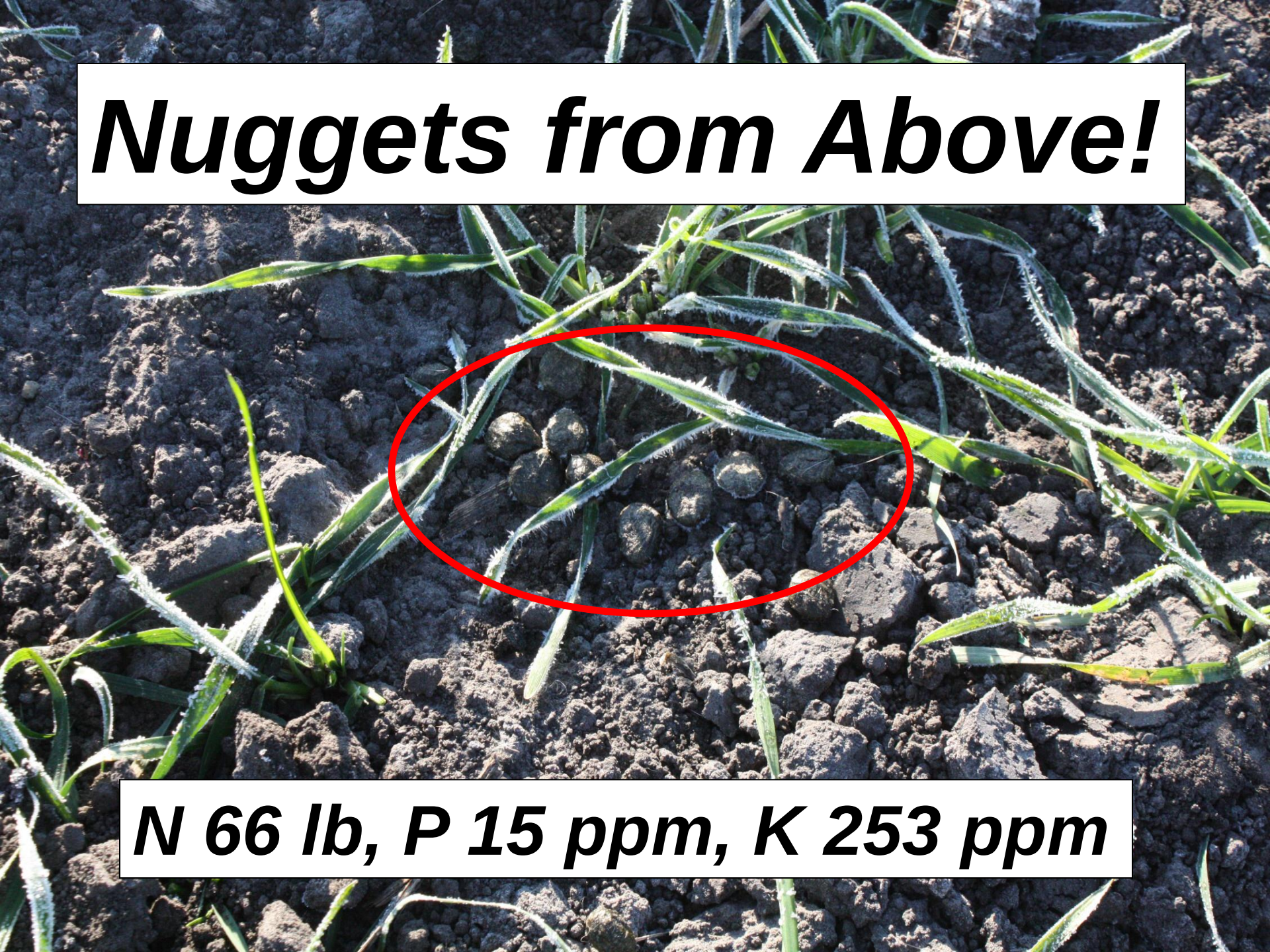

October 19


October 31

Soil Nitrate-N – Unseeded Field Site 2




Bambi visited!


Nuggets from Above!
N 66 lb, P 15 ppm, K 253 ppm

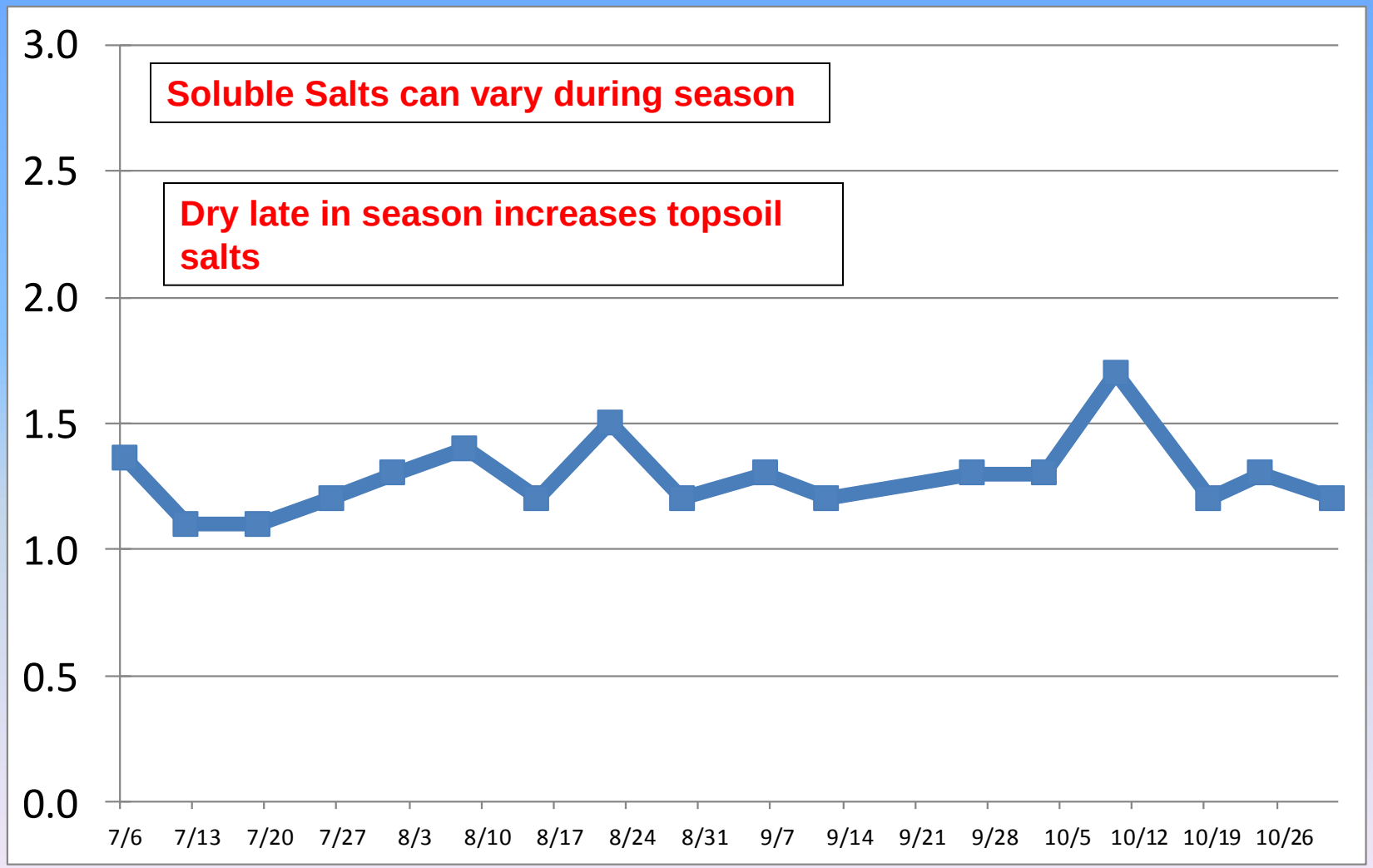
Soil Nitrate – North Dakota Unseeded/Fallow – Fall 2011

Zip Code	580	582	583	587	584	585	586	588
Soil N Range	Fargo	Grand Forks	Devils Lake	Minot	Jamestown	Bismarck	Dickinson	Williston
0-20 lb/a	19%	8%	15%	7%	16%	19%	13%	10%
21-40 lb/a	40%	22%	20%	22%	27%	28%	22%	27%
41-60 lb/a	23%	26%	23%	26%	22%	27%	26%	37%
61-80 lb/a	10%	20%	16%	20%	15%	17%	19%	17%
81-100 lb/a	3%	12%	11%	12%	9%	7%	9%	5%
> 100 lb/a	5%	12%	16%	14%	11%	3%	11%	4%
Number of Fields	968	1180	861	3356	173	173	525	314

Soil Nitrate – MN and SD Unseeded/Fallow – Fall 2011

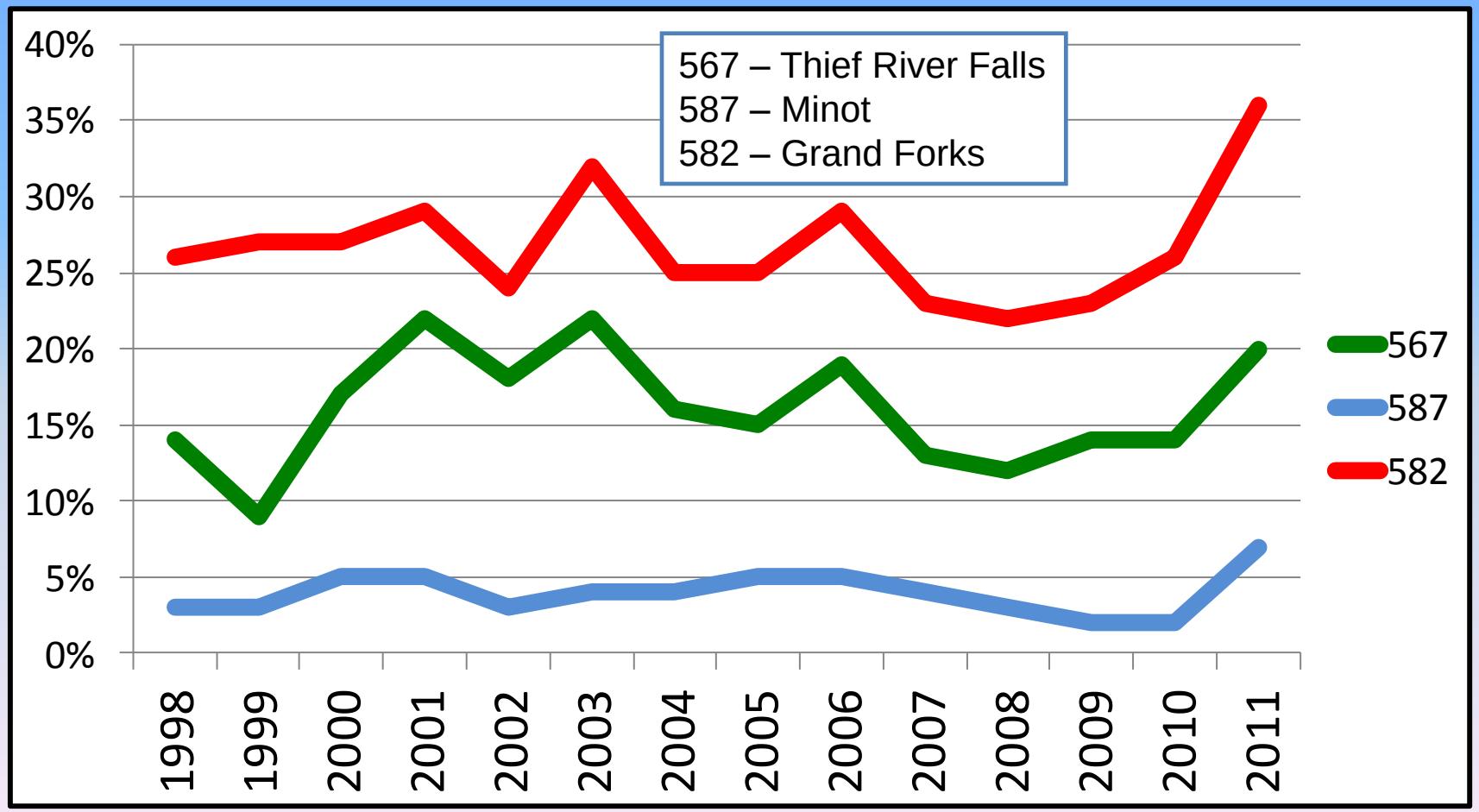
Zip Code	567	565	572	573	574
Soil N Range	Thief River Falls	Mahnomen	Watertown	Huron	Aberdeen
0-20 lb/a	10%	18%	10%	9%	27%
21-40 lb/a	25%	31%	34%	22%	29%
41-60 lb/a	25%	20%	22%	29%	15%
61-80 lb/a	19%	15%	15%	19%	12%
81-100 lb/a	12%	6%	15%	7%	8%
> 100 lb/a	9%	10%	5%	14%	8%
Number of Fields	382	118	41	660	233

Soluble Salts – Seasonal Trend 2011



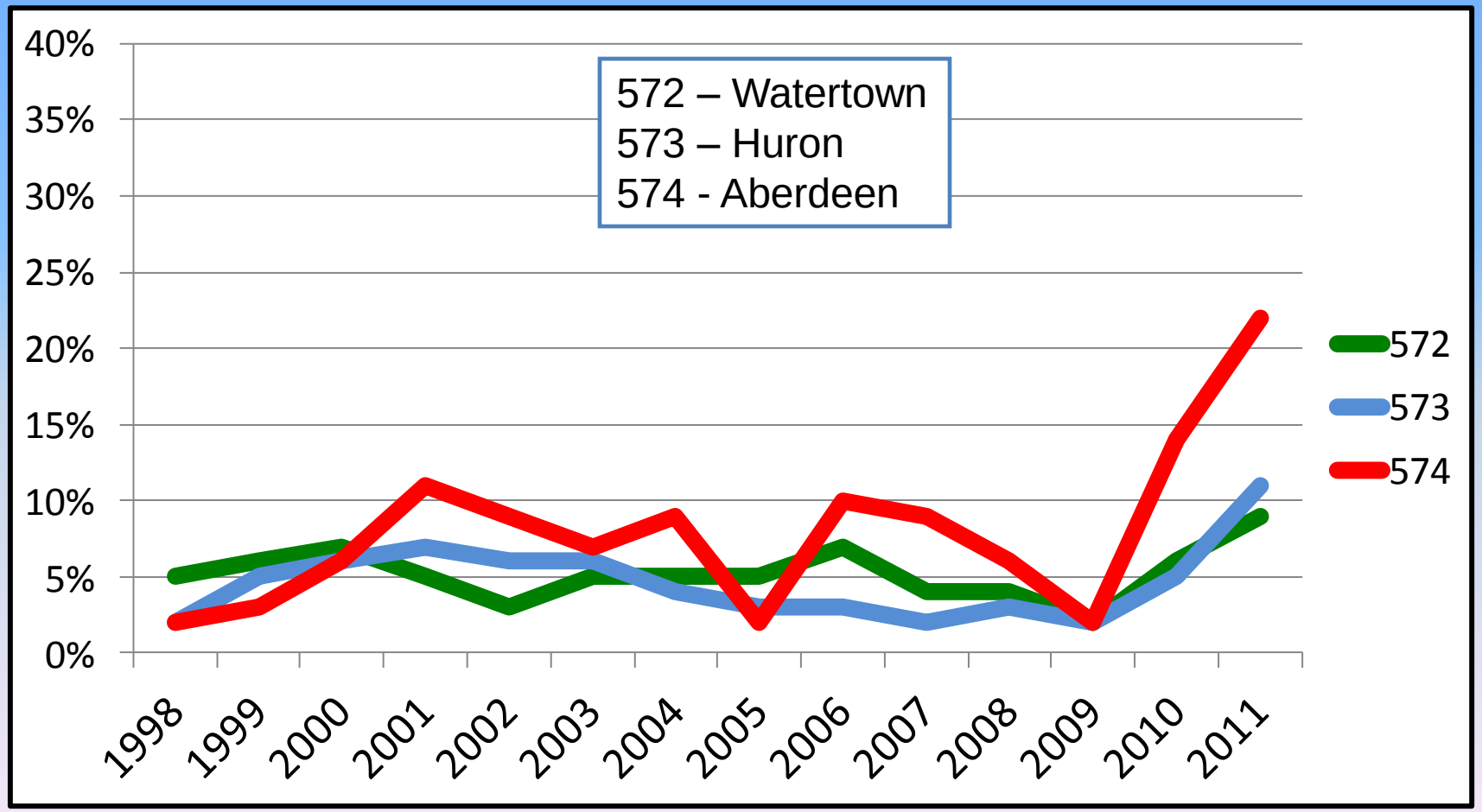
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

North Dakota & NW Minnesota % Samples Testing with Salts greater than 1.0



1:1 salt method – expressed as mmhos/cm

South Dakota
% Samples Testing with
Salts greater than 1.0



1:1 salt method – expressed as mmhos/cm

The Salt Problem may be Worse than this?

- Composite samples
  - Avoid areas that don't represent most of the field
    - Saline areas
    - Sandy ridges
- Many salty fields don't get tested
- Zone sampling
  - The salty zones often do not get tested or fertilized

Unseeded Acres?

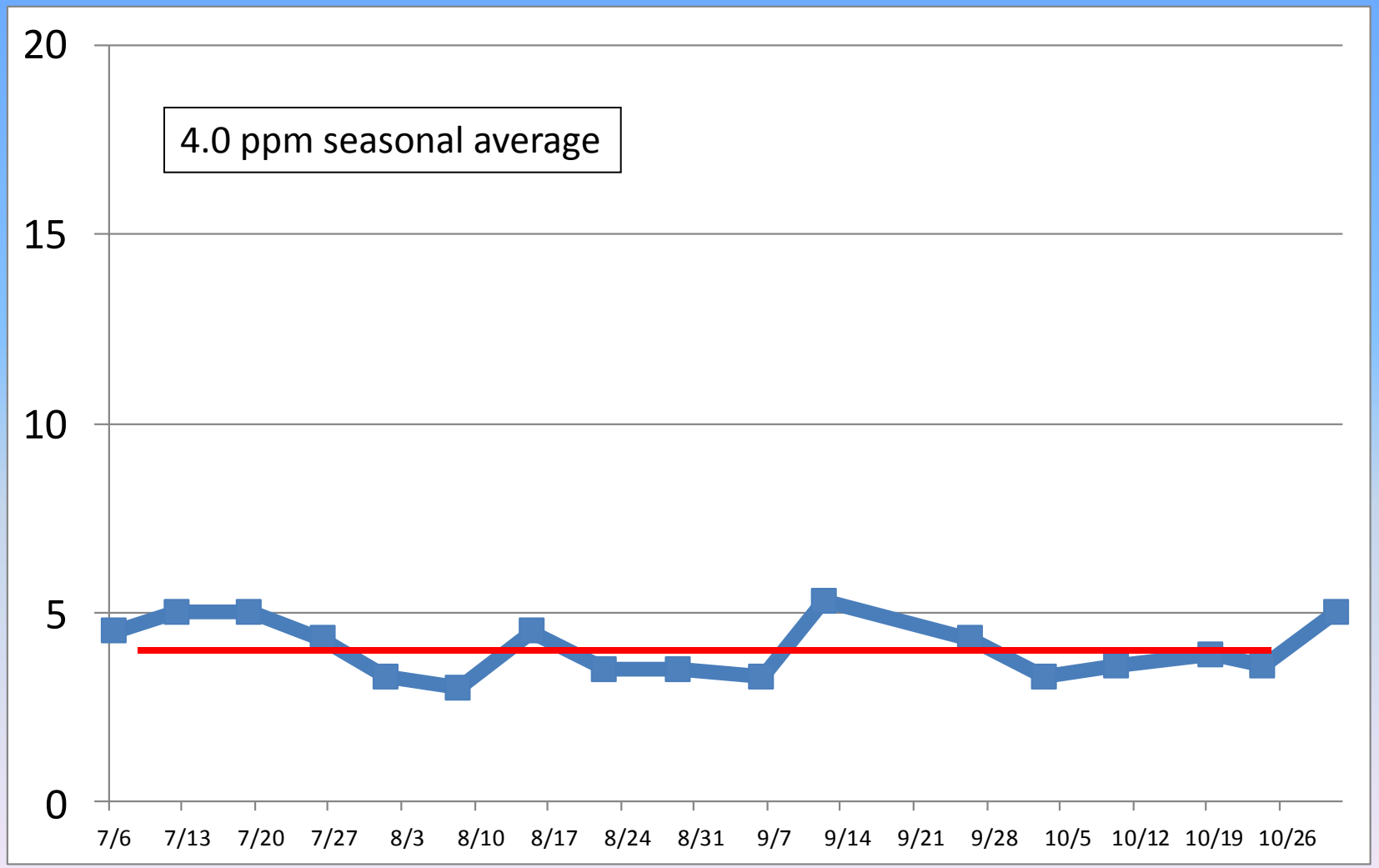
- Every Field has different situation
  - Mother Nature
  - Management
- Agronomist and farmers work together to create fertility Plan for 2012!

- ***Soil Test, Soil Test, Soil Test***

Questions?


Thank You!

Phosphorus – Seasonal Trend 2011



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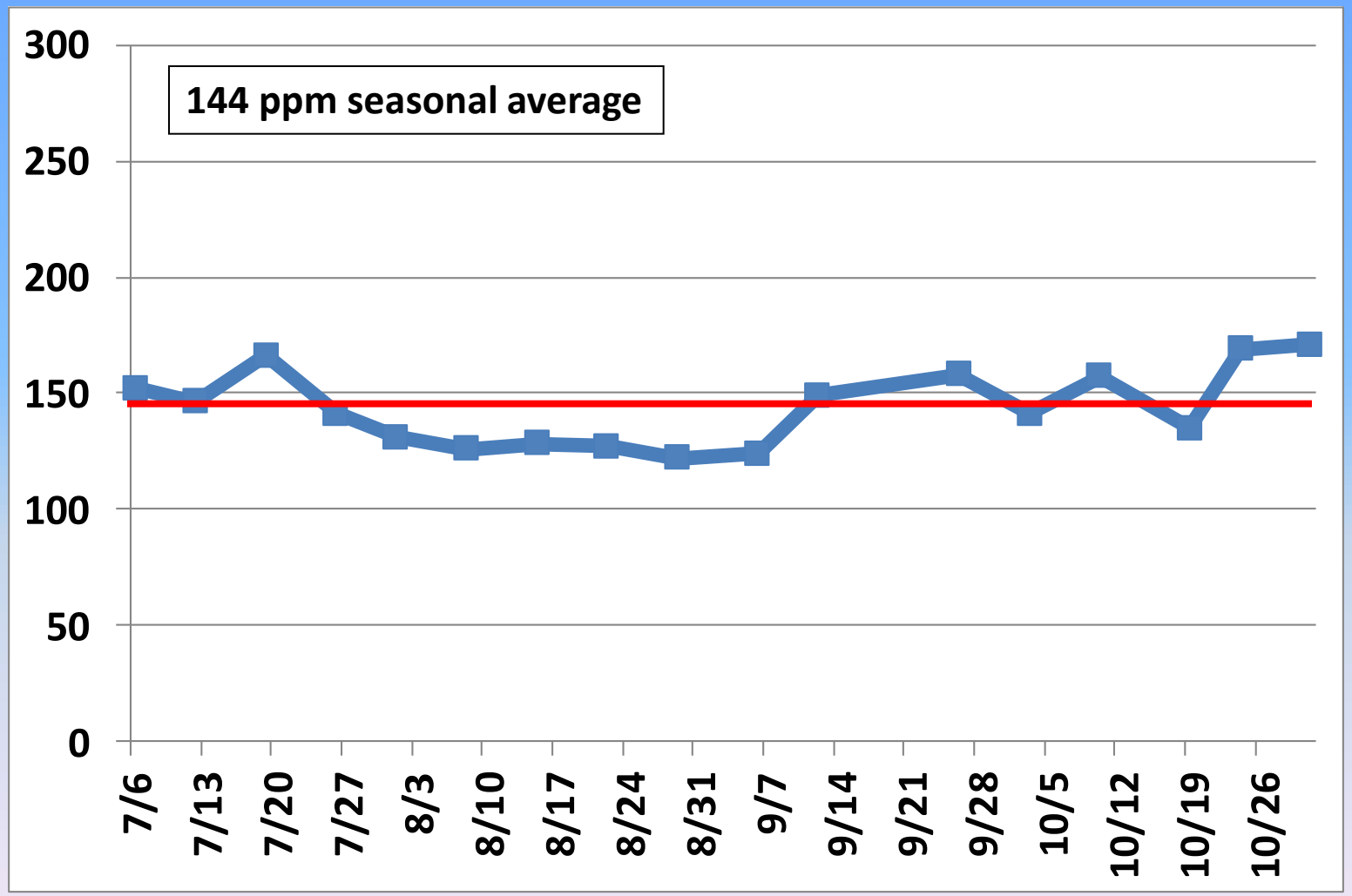
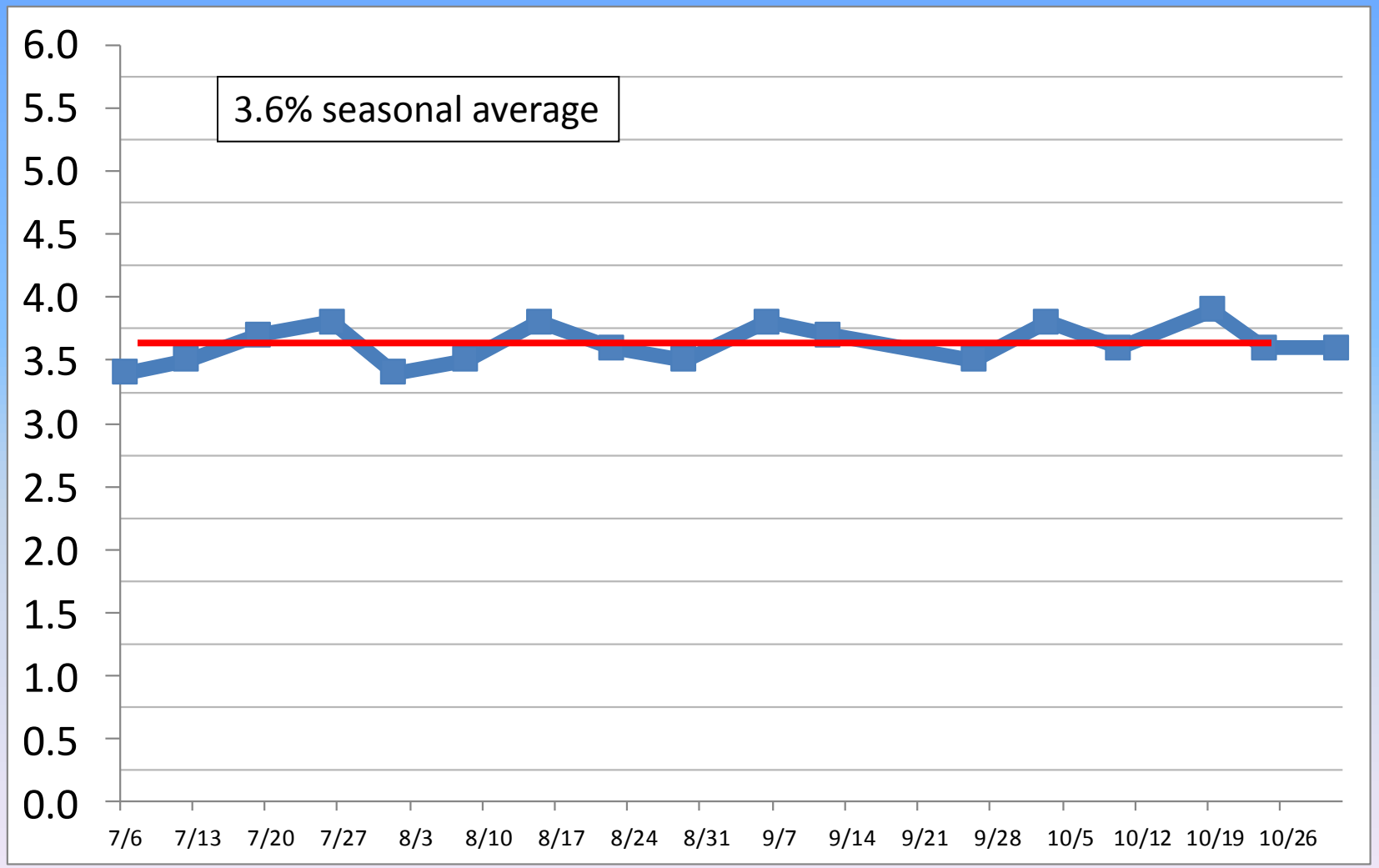
Potassium – Seasonal Trend 2011



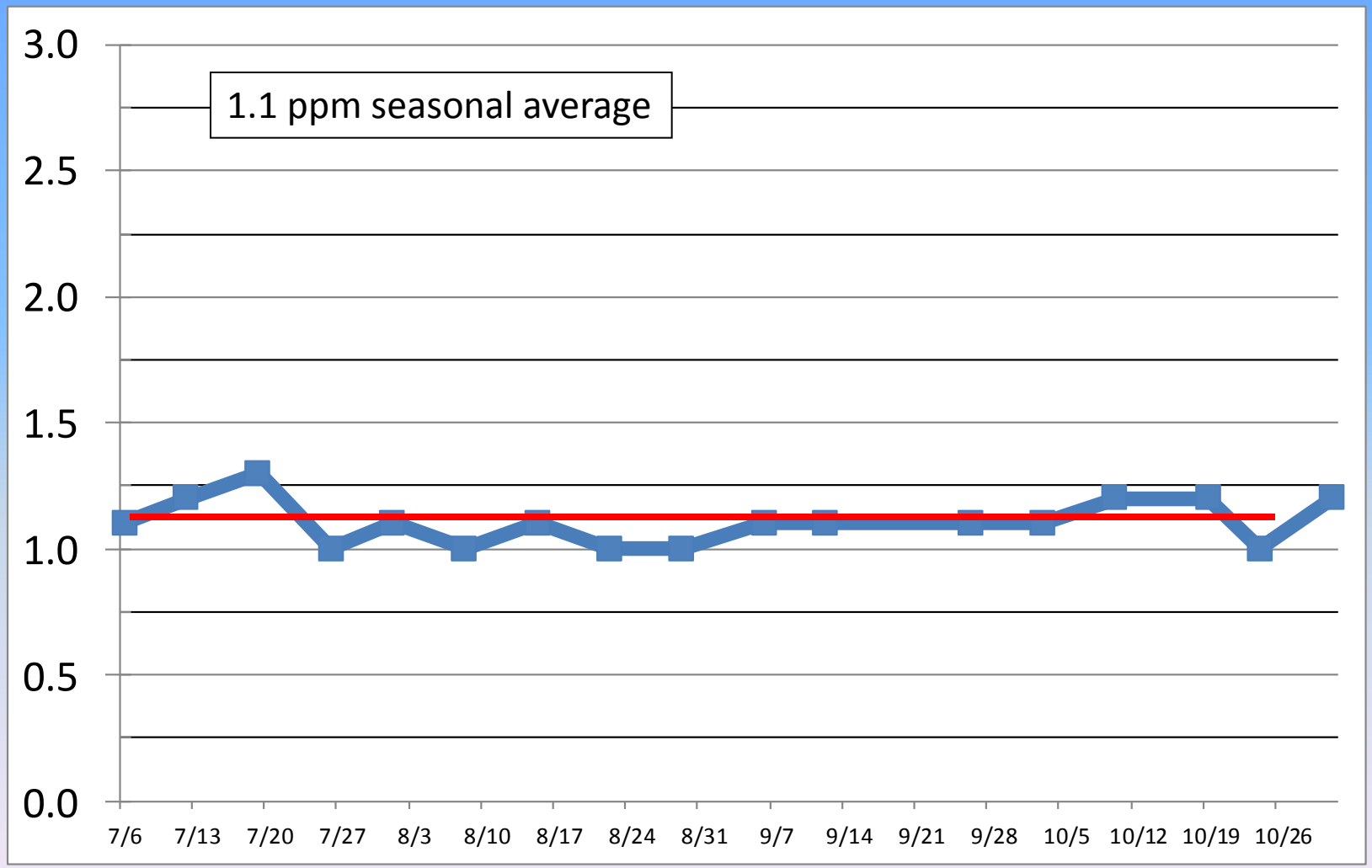
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

%OM – Seasonal Trend 2011



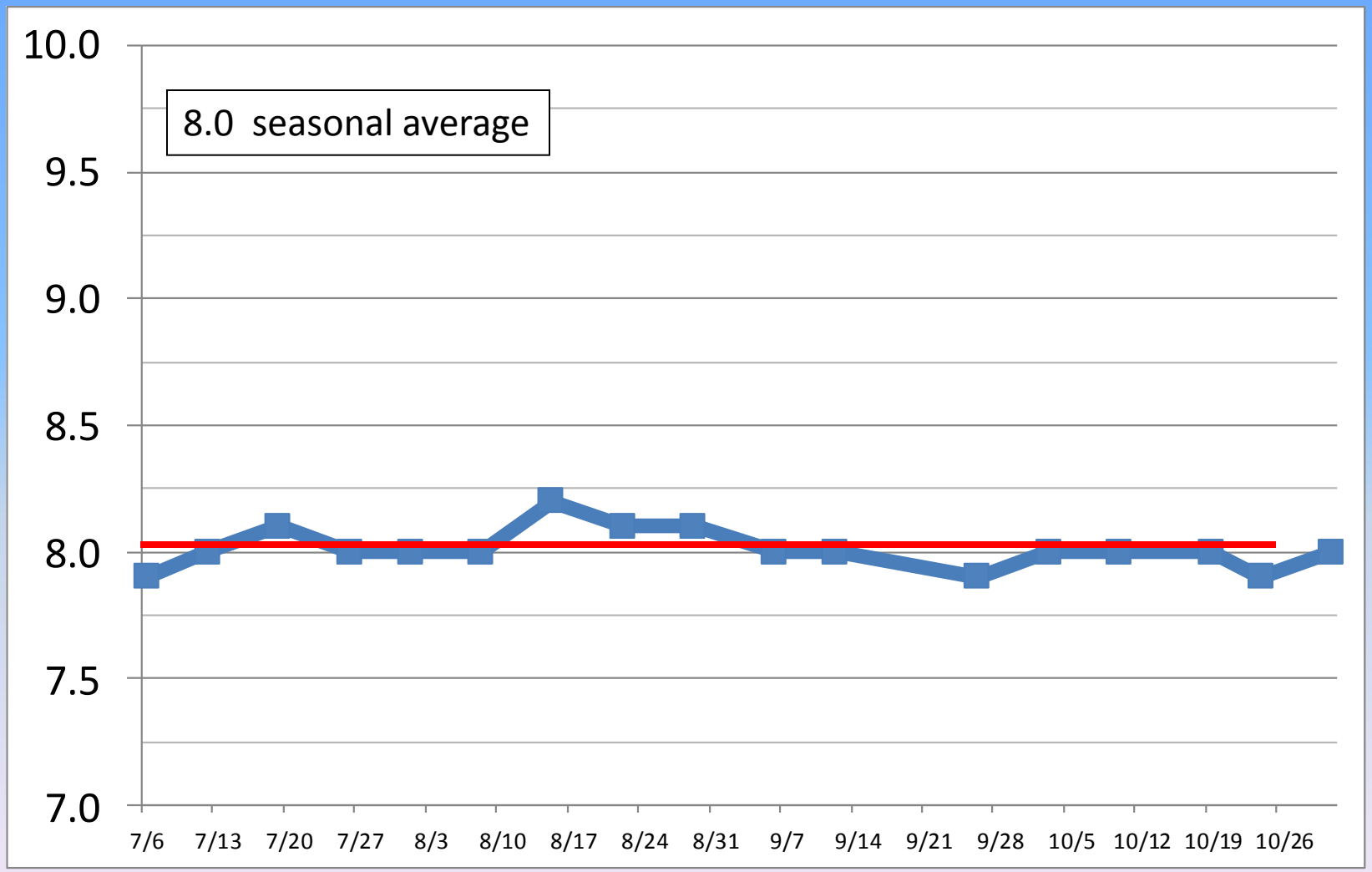
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

Zinc – Seasonal Trend 2011



Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

pH – Seasonal Trend 2011



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21-40 lb/a	45%	49%	45%	43%	38%	34%	41%	37%
41-60 lb/a	23%	21%	24%	26%	29%	29%	29%	18%
61-80 lb/a	8%	8%	9%	11%	13%	15%	12%	9%
81-100 lb/a	3%	3%	4%	5%	6%	6%	4%	3%
> 100 lb/a	3%	3%	3%	4%	4%	4%	2%	2%

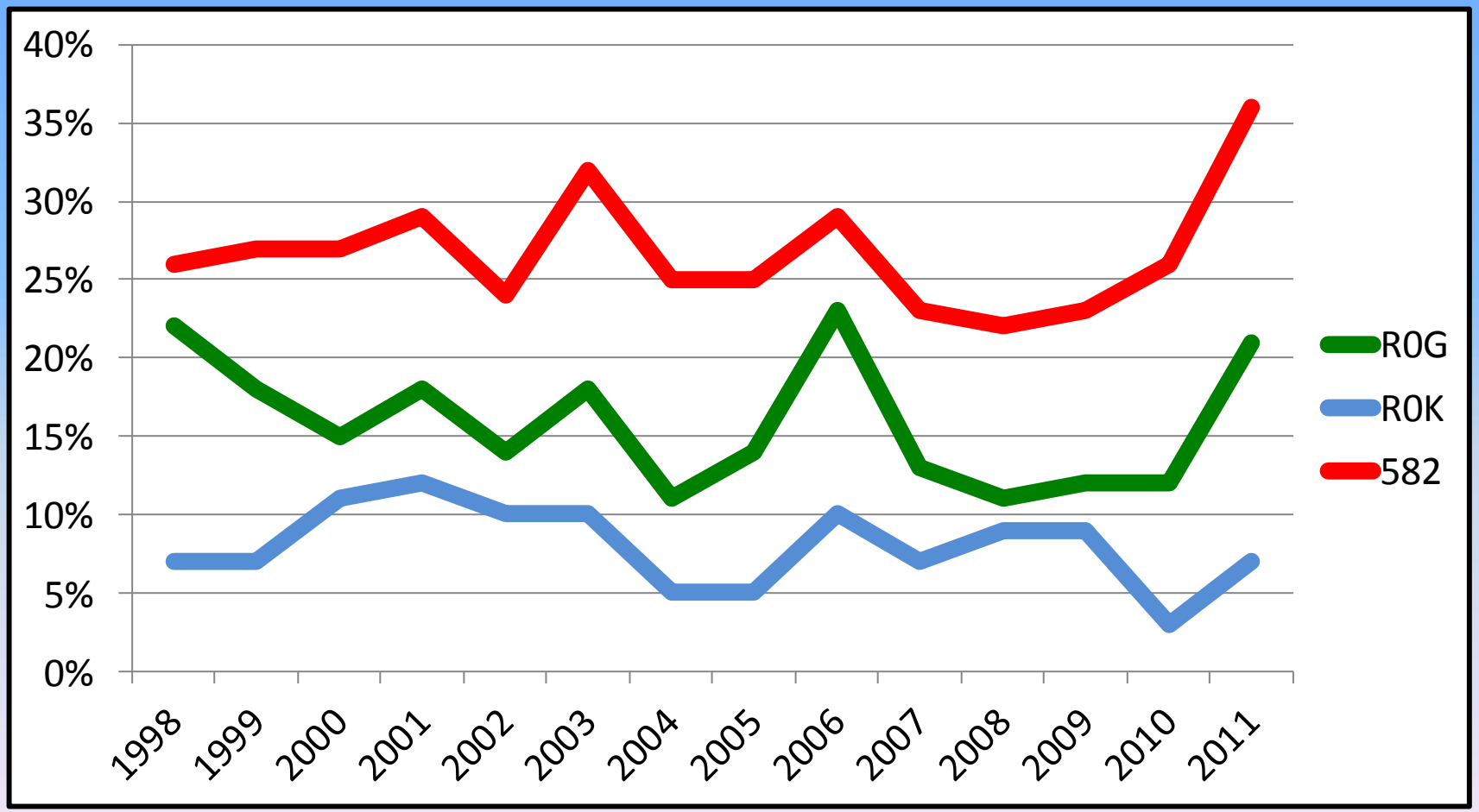
Number of Fields	1974	7492	4074	2286	1994	1722	215	3	668

Soil Nitrate – MN and SD Wheat – Fall 2011

Zip Code	567	565	572	573	574
Soil N Range	Thief River Falls	Mahnomen	Watertown	Huron	Aberdeen
0-20 lb/a	20%	26%	8%	20%	17%
21-40 lb/a	48%	46%	28%	36%	29%
41-60 lb/a	20%	19%	33%	20%	26%
61-80 lb/a	7%	7%	17%	12%	16%
81-100 lb/a	3%	2	7%	5%	6%
> 100 lb/a	1%	1%	7%	6%	6%

Number of Fields	2707	1315	949	660	2268

ND - % Samples Testing with Salts greater than 1.0



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