

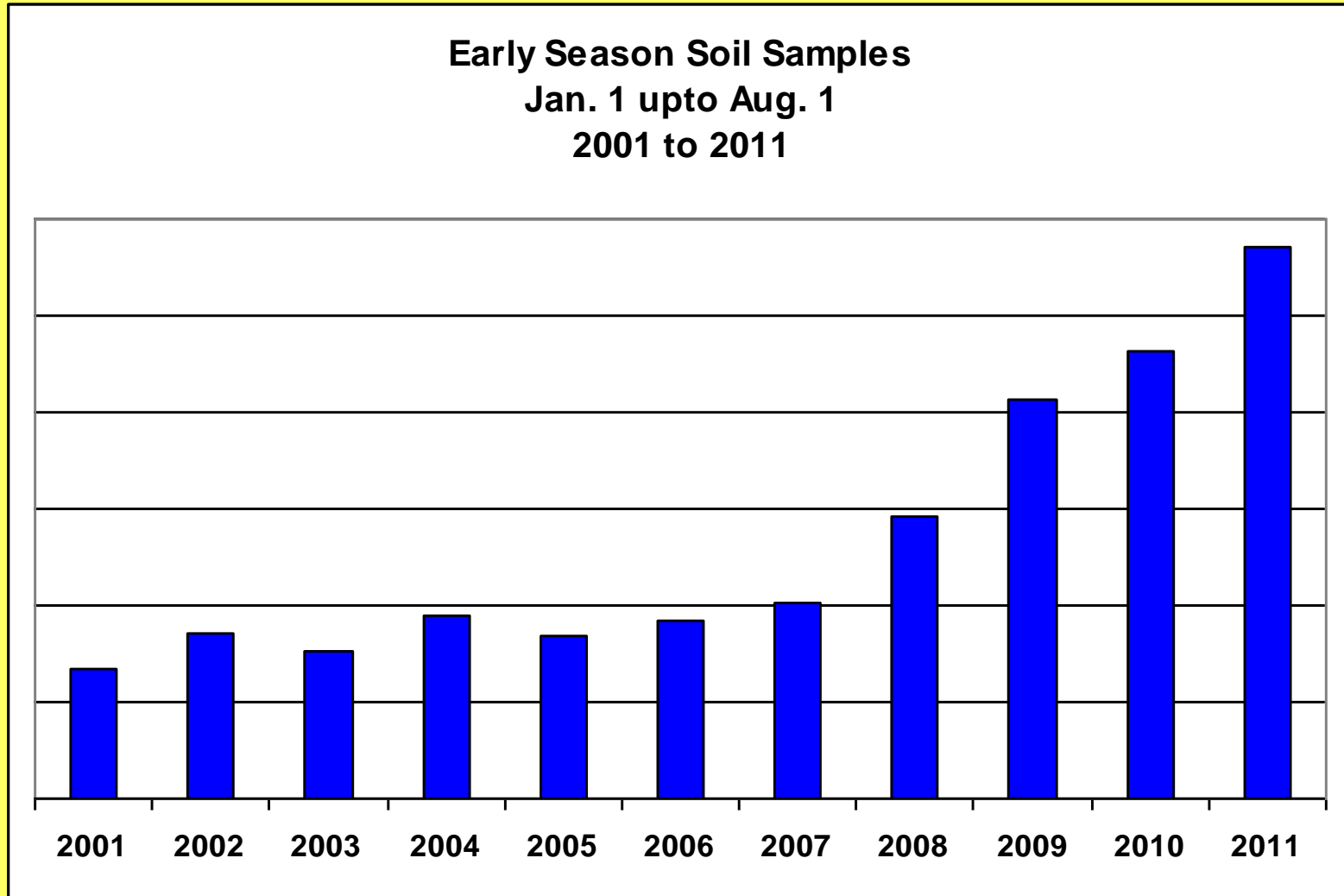
**2012 Soil Fertility Seminars**  
**Early Summer Sampling**  
**Benefits for Growers, Dealers, Agronomists**



Richard Jenny  
Agronomist  
AGVISE Laboratories  
Benson, MN

# Trends in Early Summer Sampling

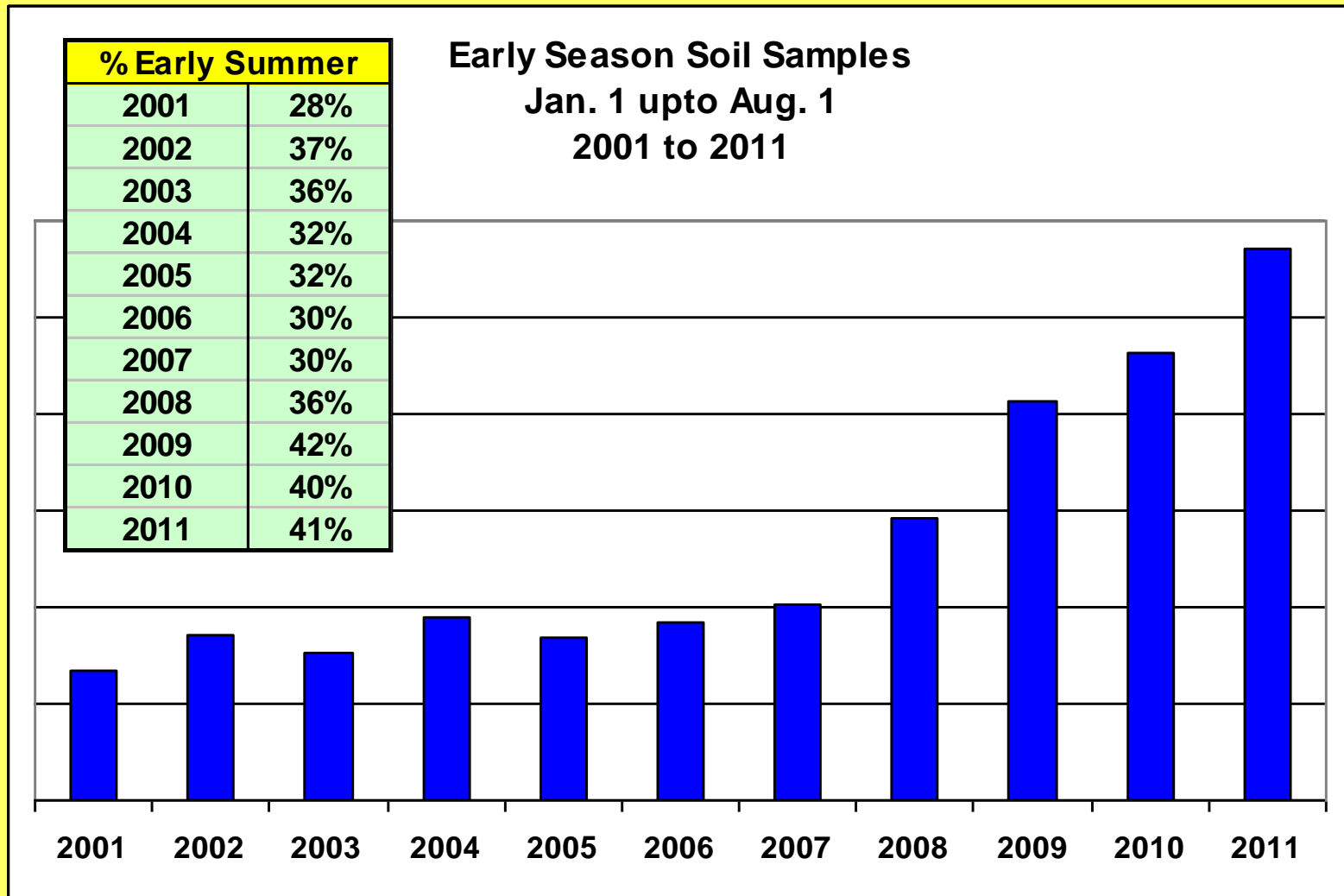
## 2001 - 2011



Benson lab

# Trends in Early Summer Sampling

## 2001 - 2011

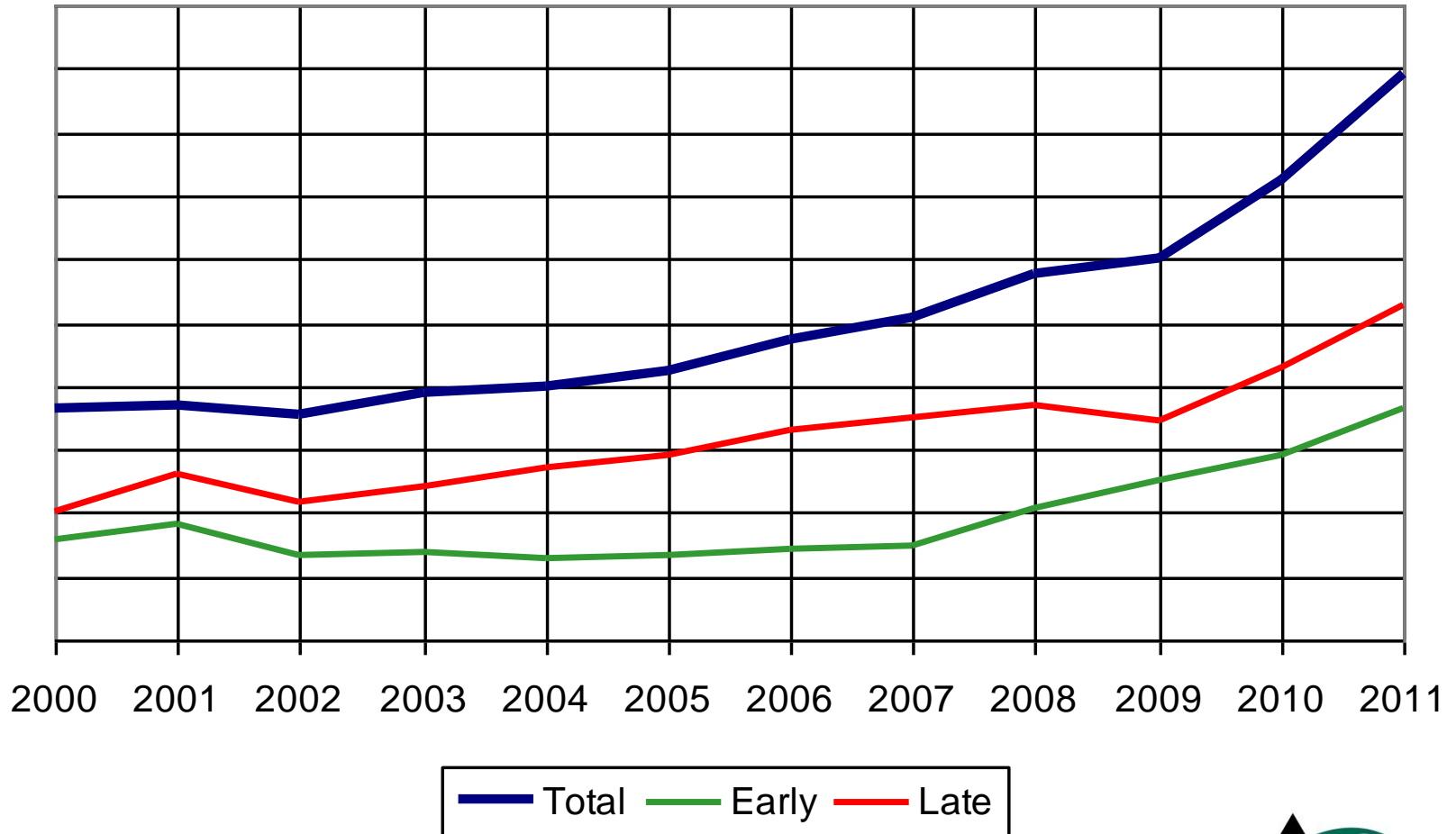


Benson lab

# Trends in Soil Sampling

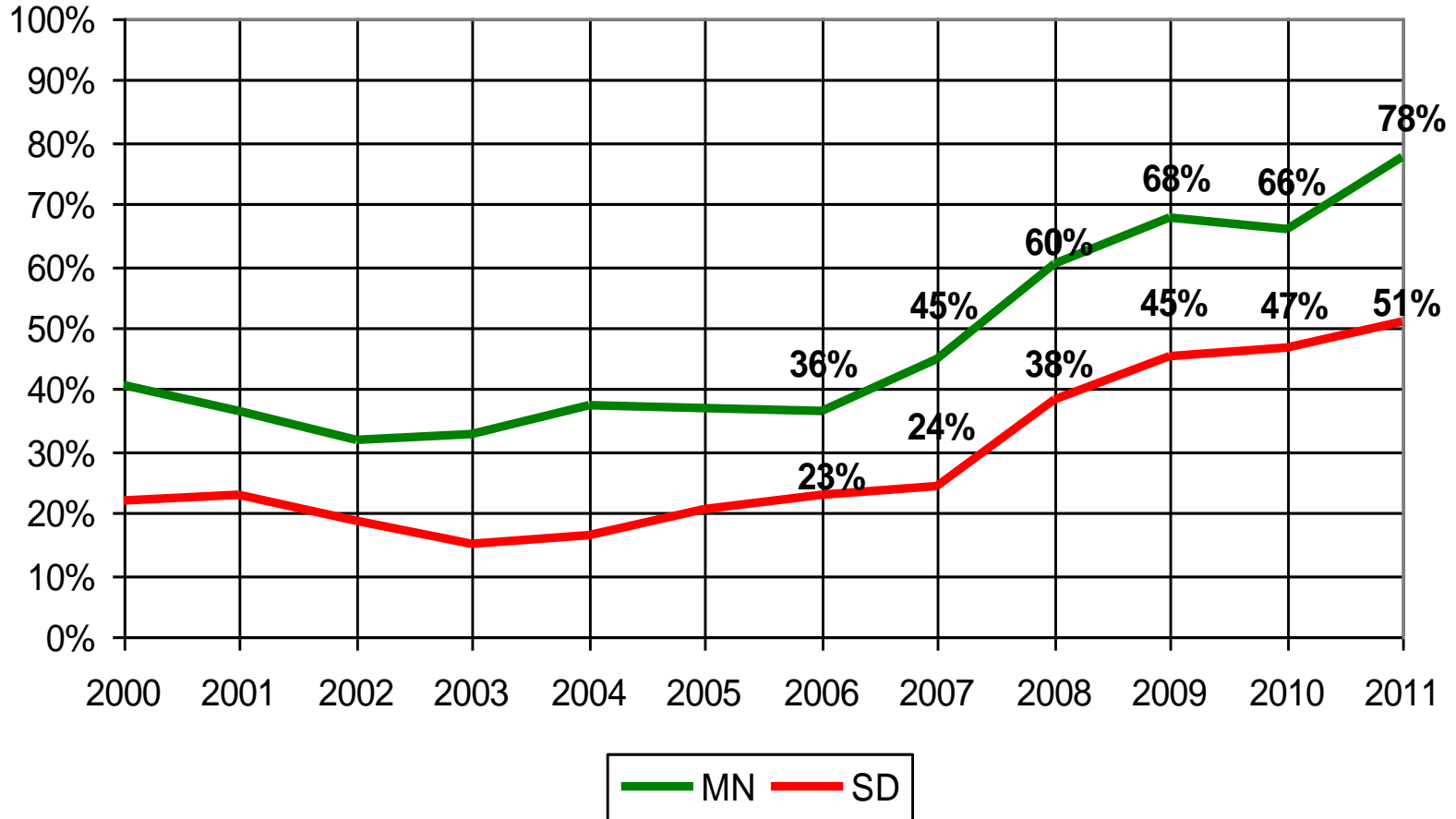
Increase Early & Fall Samples

Annual Soil Sample Volume  
Benson Lab (2000 - 2011)



# Trends in Soil Sampling

## Grid/Zone Percentage Comparison MN & SD



2011 Benson: 72% of all samples were Grid/Zone samples

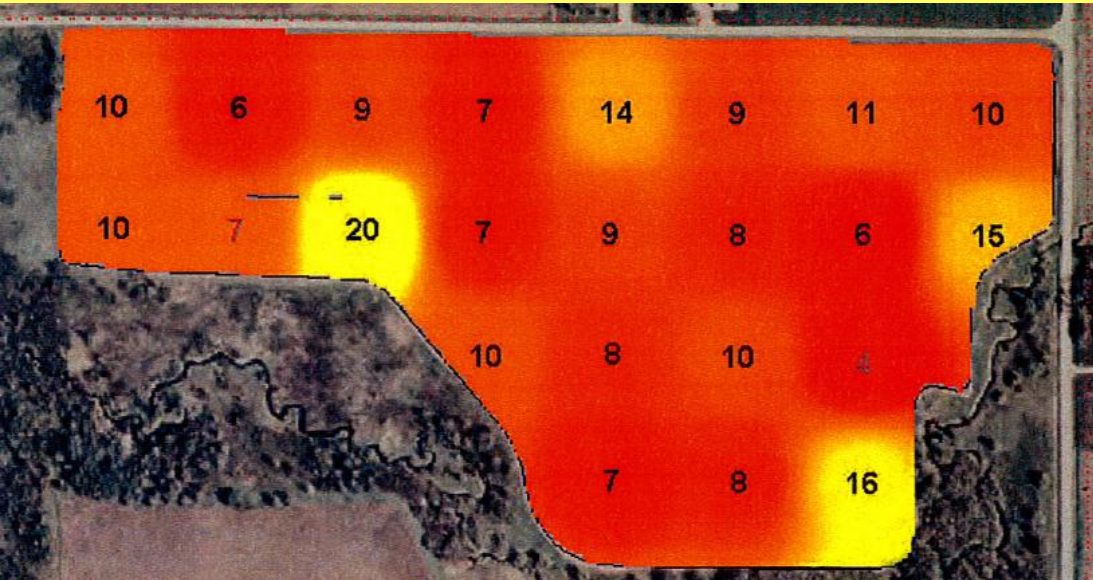
# Early Summer Precision Sampling

- 1. Mostly 2.5 acre grid**
  - Intended for Fall fertilizer application
- 2. Topsoil sample (0-6 inch depth)**
  - Most test for: P, K, Zn, pH, salts, BpH & OM
  - Some test for: CEC, Sulfur and Boron
- 3. Sample in the planted soybean crop**
  - Hand probe
  - Wintex 1000
- 4. Goal is to be done sampling by July 4<sup>th</sup>**

# Benefits and Advantages of Early Summer Sampling for Growers, Dealers, Samplers and Agronomists

1. Everyone avoids the rush & delays of fall sampling
2. All summer to generate soil reports, visit with growers, develop spread maps
3. Start fertilizer application right after harvest
4. Consistent soil cores and good soil sample condition  
Falls can be inconsistent in soil conditions, esp. if tillage is involved. >>>>
5. Test results are very similar and comparable between early summer and fall sampling

## Sampling Tilled vs Untilled Soil



Fall sample after chisel/disk.  
Phos. (ave) = 10

Very poor sampling conditions.  
- Poor quality cores.



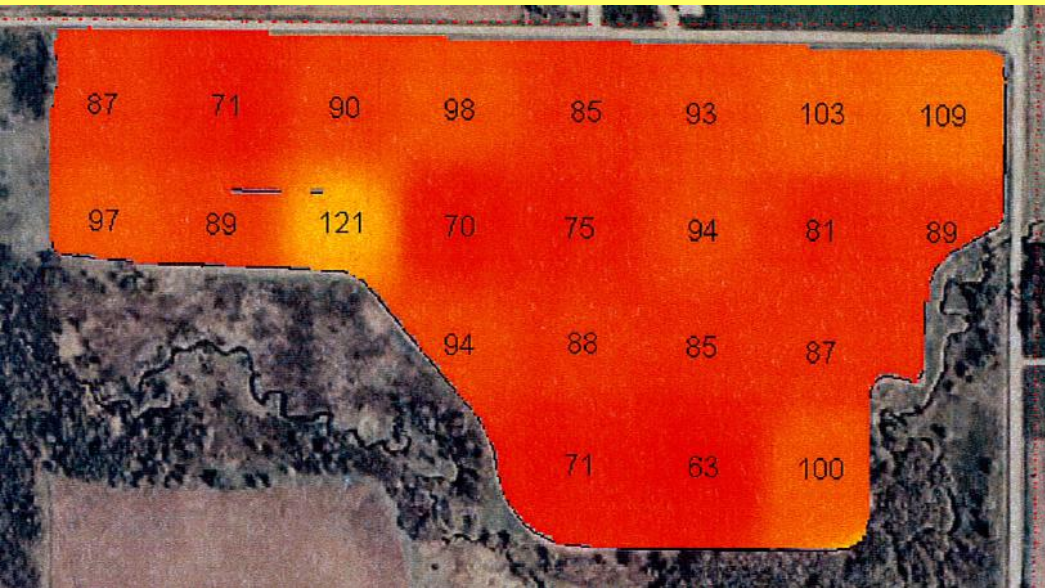
Early Summer sample in crop.  
Phos. (ave) = 39

- Grower comment:
- More representative to field history.

Data and images supplied by Midwest Independent Soil Samplers, Hutchinson, MN



## Sampling Tilled vs Untilled Soil



Fall sample after chisel/disk.  
Potassium (ave) = 89

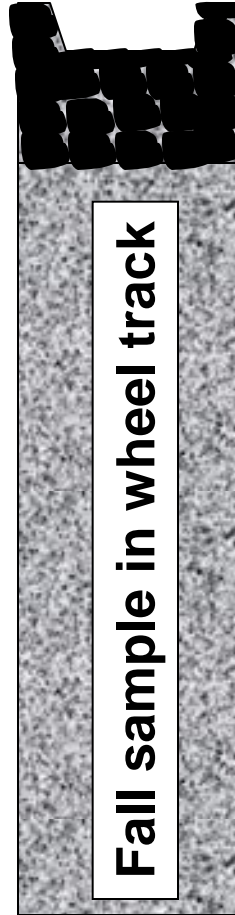
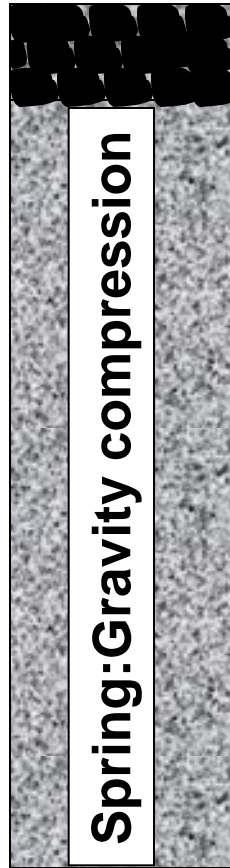
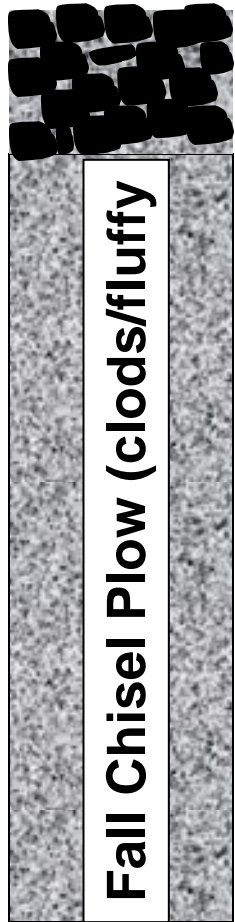
Very poor sampling conditions.  
- Poor quality cores.



Early Summer sample in crop.  
Potassium (ave) = 205

•Grower comment:  
•More representative to field history.

# Sampling Tilled vs Untilled Soil



## Wheel track sampling

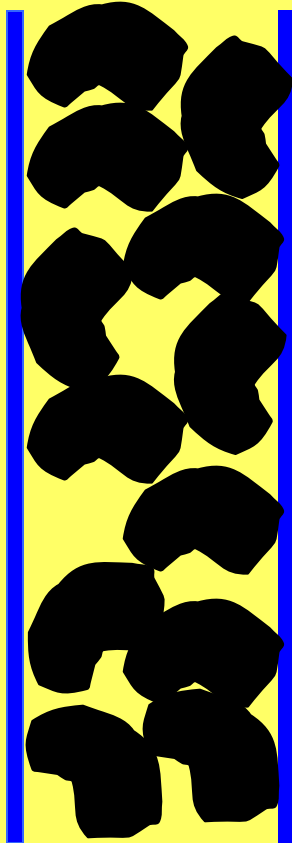
1. Soil is compressed for a more representative profile
2. Test results will be more like A sample on stubble
3. Soil probe tips will cut a compressed soil surface much better than a cloddy surface

# Sampling Tilled vs Untilled Soil

## Inside the soil probe

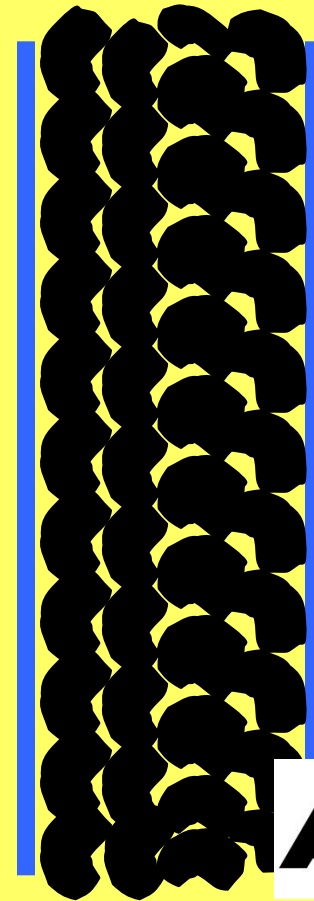
### Tilled:

1. Larger particles
2. Less compact
3. Less repeatable/consistent
4. Less soil/more air space
5. Phos. = 22



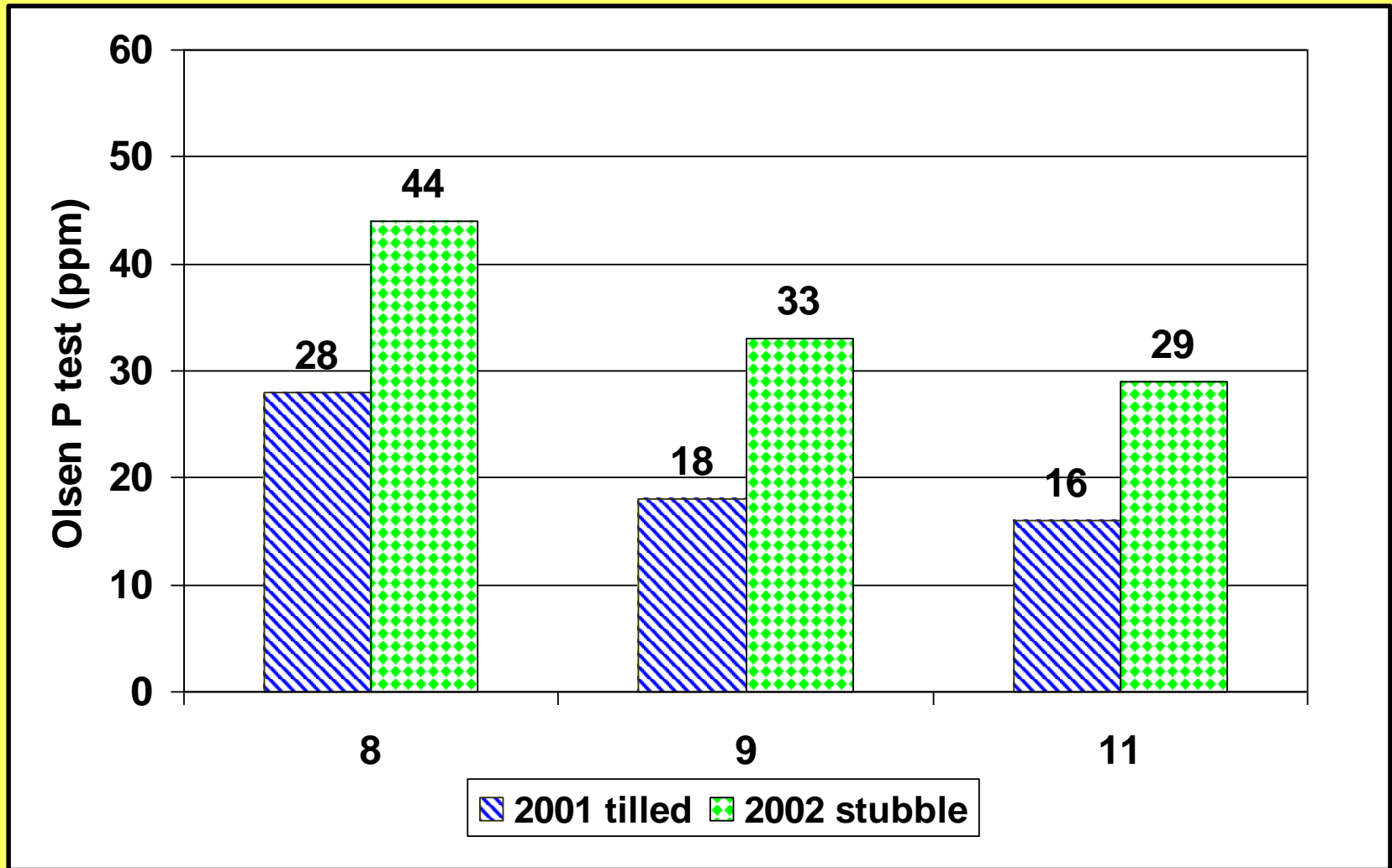
### No Tillage:

1. Small particles
2. More compact
3. More repeatable/consistent
4. More soil/less air space
5. Phos. = 33



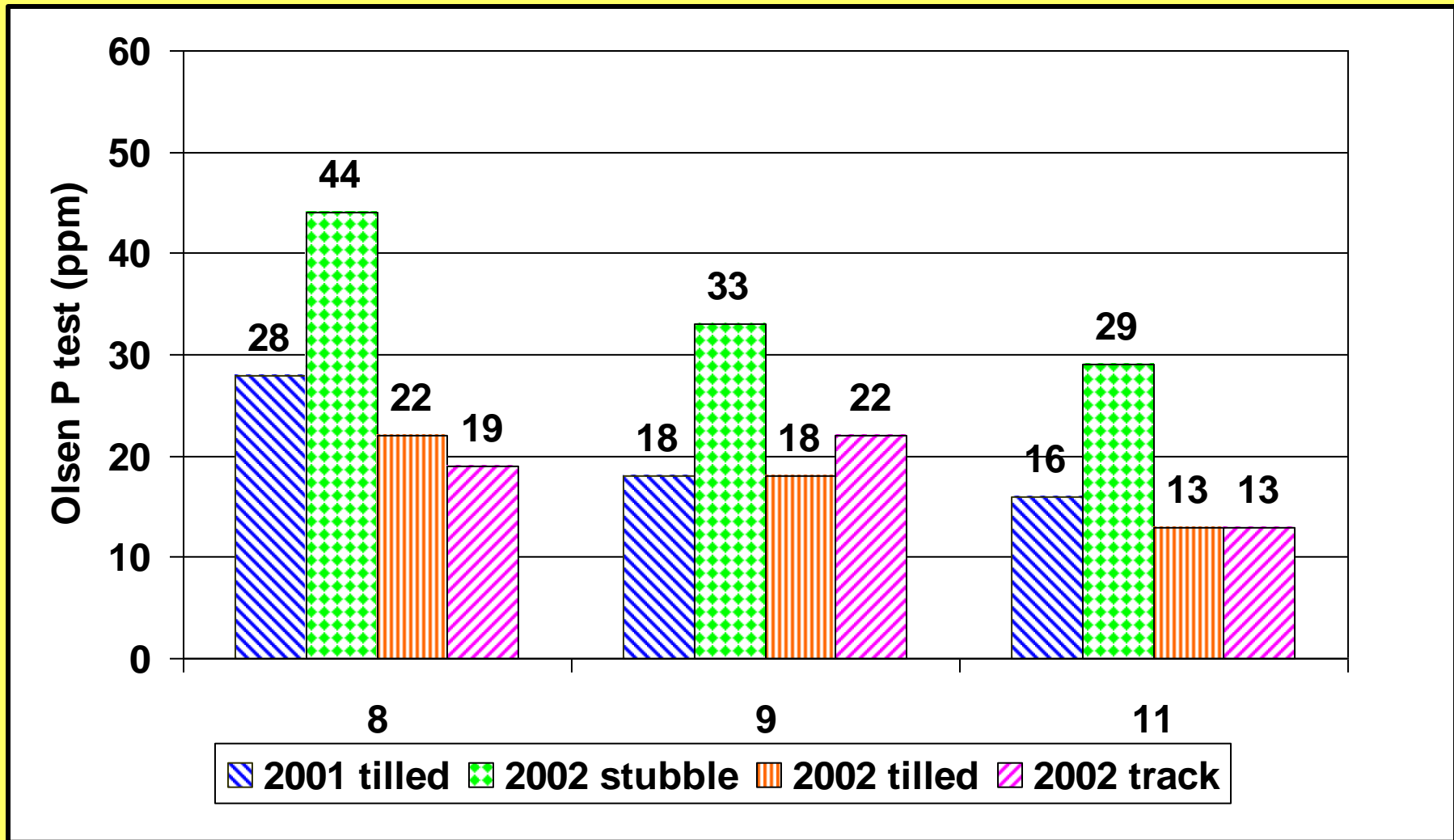
# Sampling Tilled vs Untilled Soil

## Phosphorus



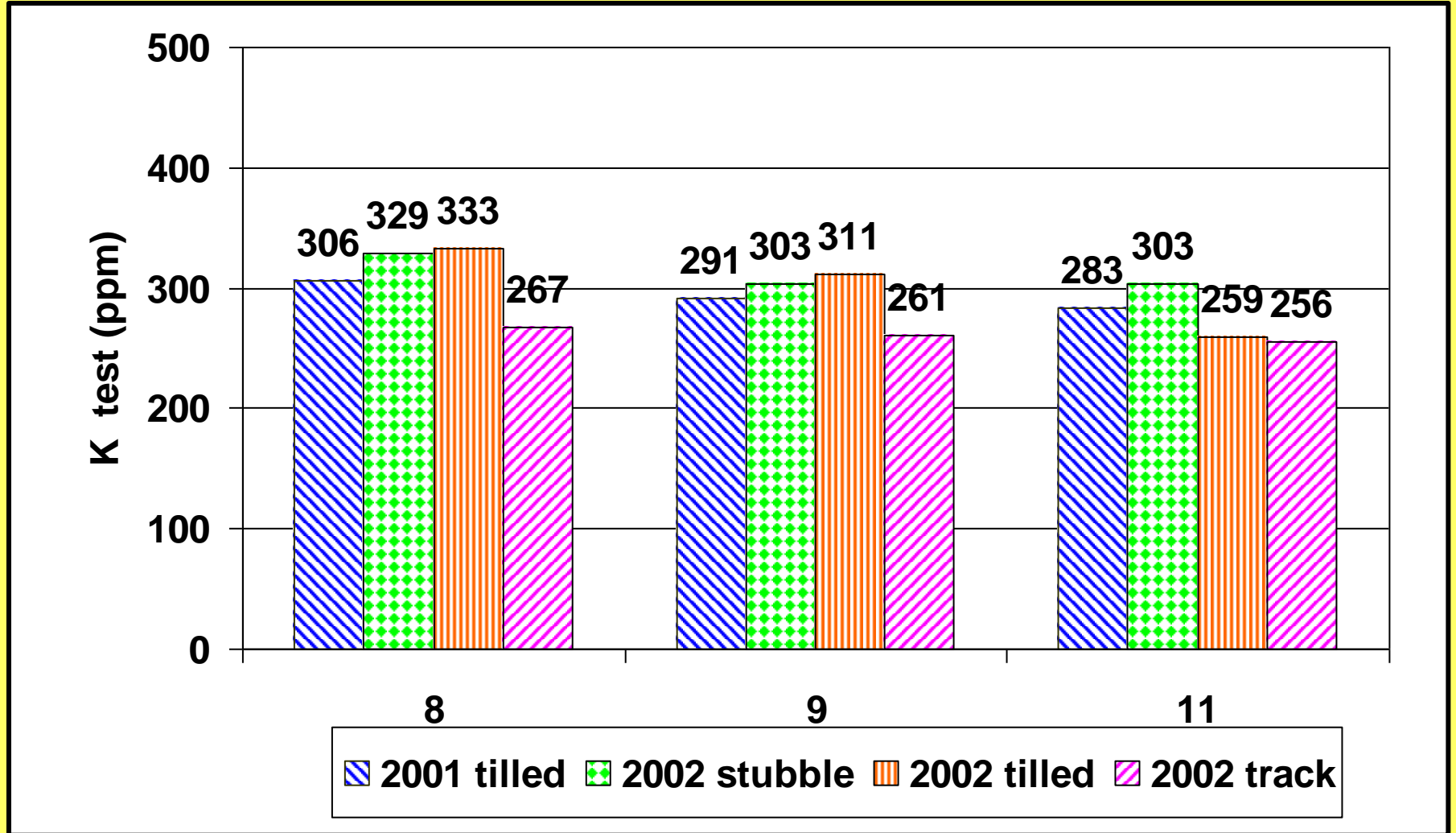
# Sampling Tilled vs Untilled Soil

## Phosphorus



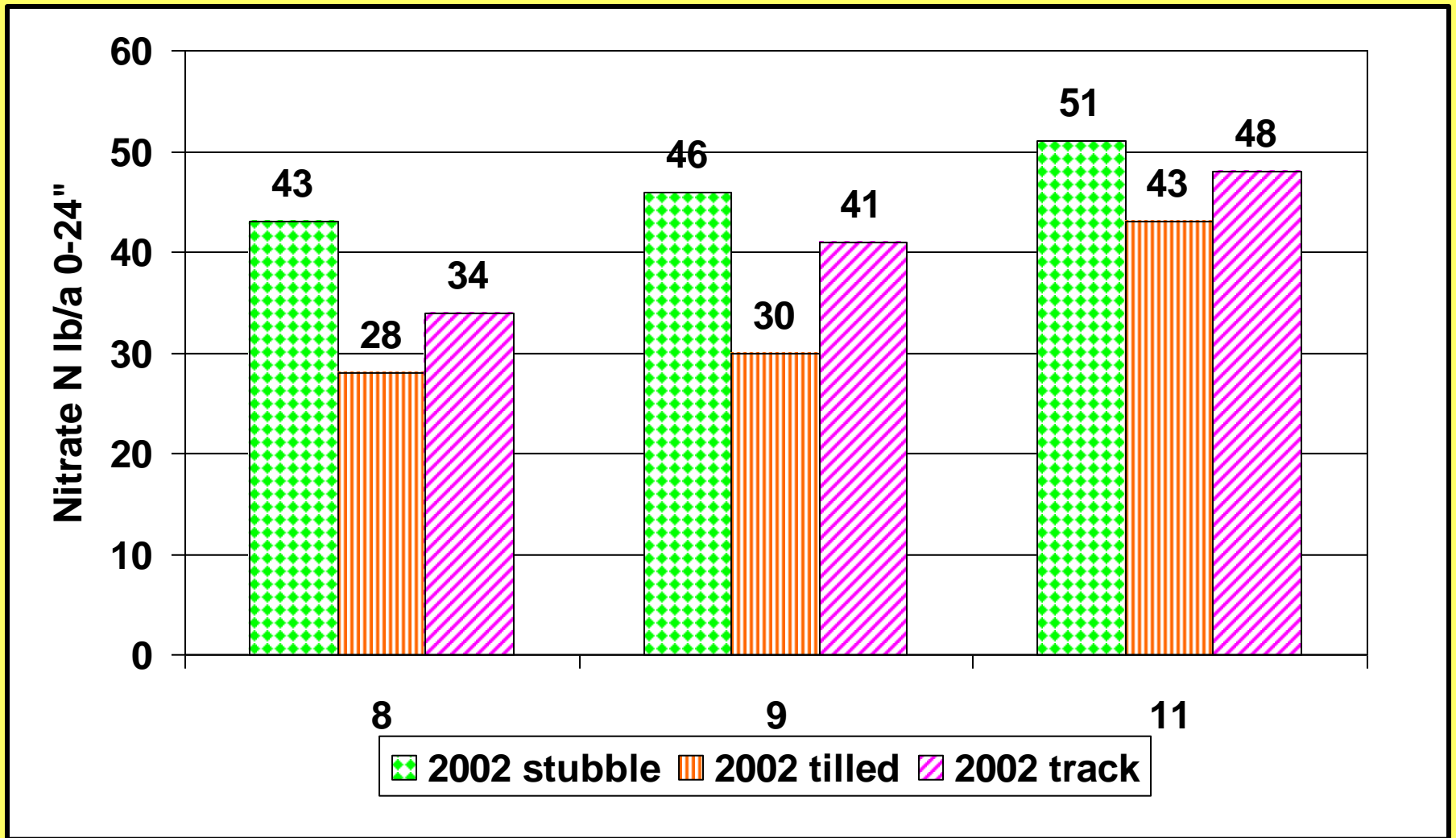
# Sampling Tilled vs Untilled Soil

## Potassium



# Sampling Tilled vs Untilled Soil

## Nitrogen



# Sample Date Comparison

## Early Summer vs Fall

Benson lab comparison of all soil samples 2001 - 2011

	<b>Spring/ E Summer</b>	<b>Fall</b>
P-O	16	15
P-B1	34	31
K	195	196
pH	6.9	6.9
Zn	1.6	1.5

Thousands of soil samples compiled and compared



# Sample Date Comparison Project

**Early Summer (in crop)**

vs

**Fall (post harvest)**

**9 fields were sampled and 73 sample points**

2010: 4 fields & 28 sample points

2011: 5 fields & 45 sample points

## **Sampled twice:**

- 1) Early Summer: After soybean emergence
- 2) Fall: After soybean harvest, prior to tillage
- 3) Topsoil sample (0-6" depth)
- 4) All points were GPS marked & relocated

# Sample Date Comparison Project

Early Summer (in crop)

vs

Fall (post harvest)

## 2010: 4 Fields

3 south of Benson, MN

1 northeast of Benson, MN

## 2011: 5 Fields

2 northwest of Marshall, MN

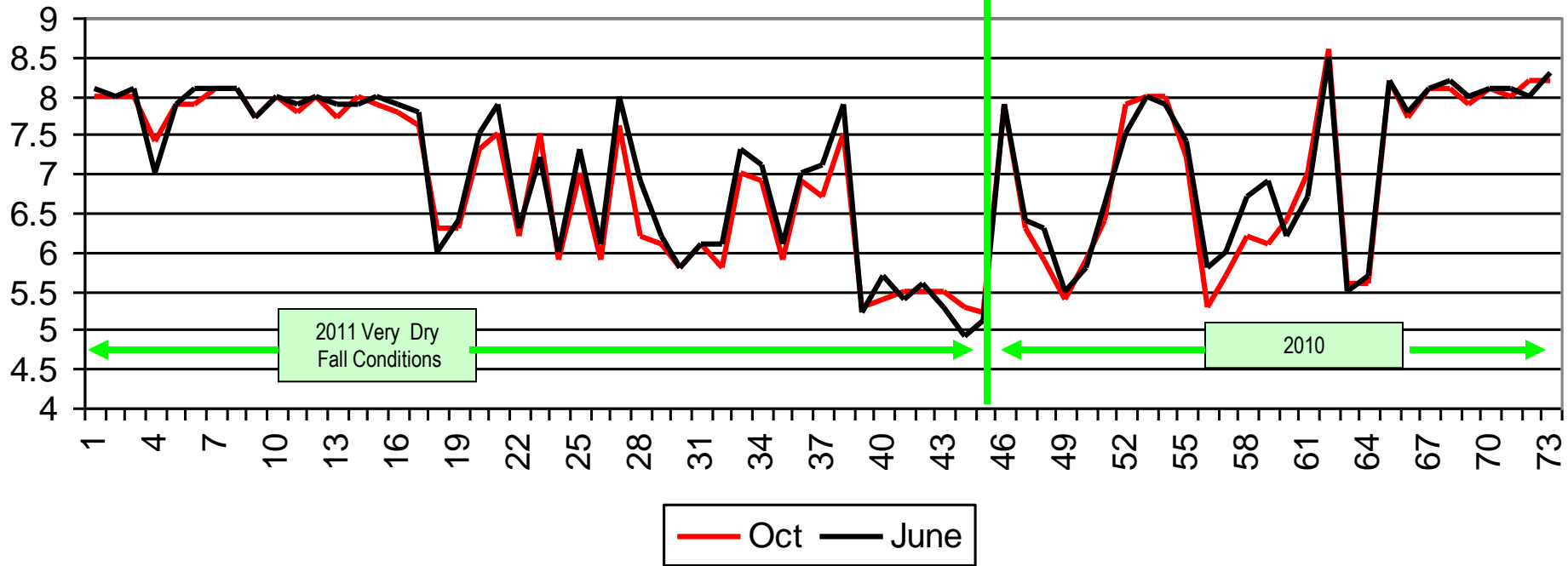
3 south of Sioux Falls, SD

# Sample Date Comparison Project

## Early Summer vs Fall

pH

Average  
June = 7.0  
Oct. = 7.0

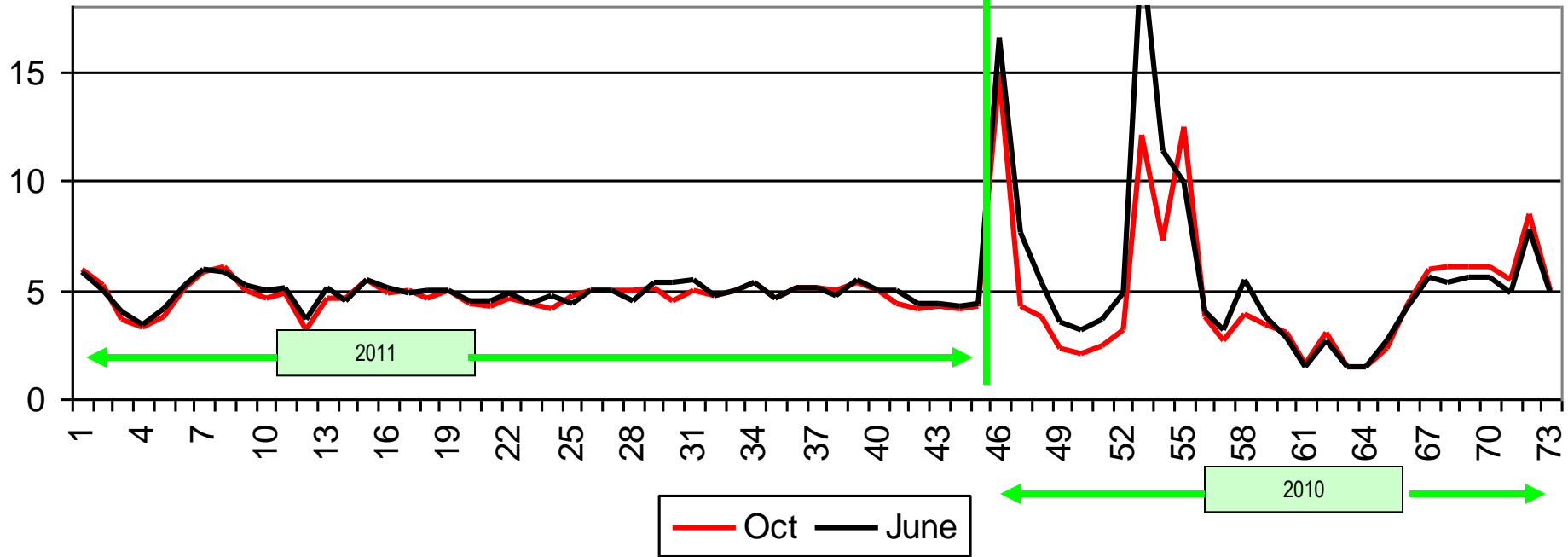


# Sample Date Comparison Project

## Early Summer vs Fall

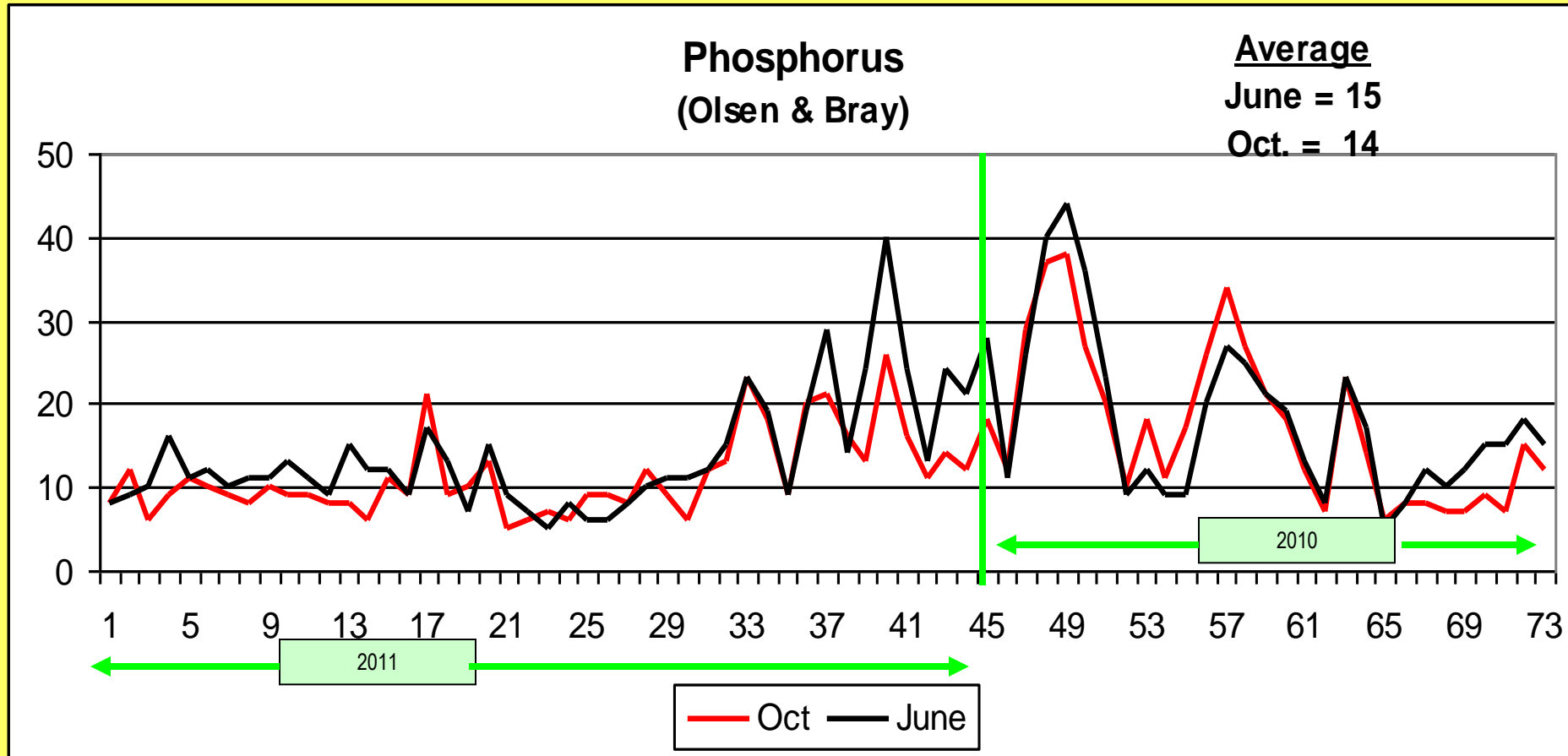
### Organic Matter

Average  
June = 5.1  
Oct. = 4.8



# Sample Date Comparison Project

## Early Summer vs Fall



# Sample Date Comparison Project

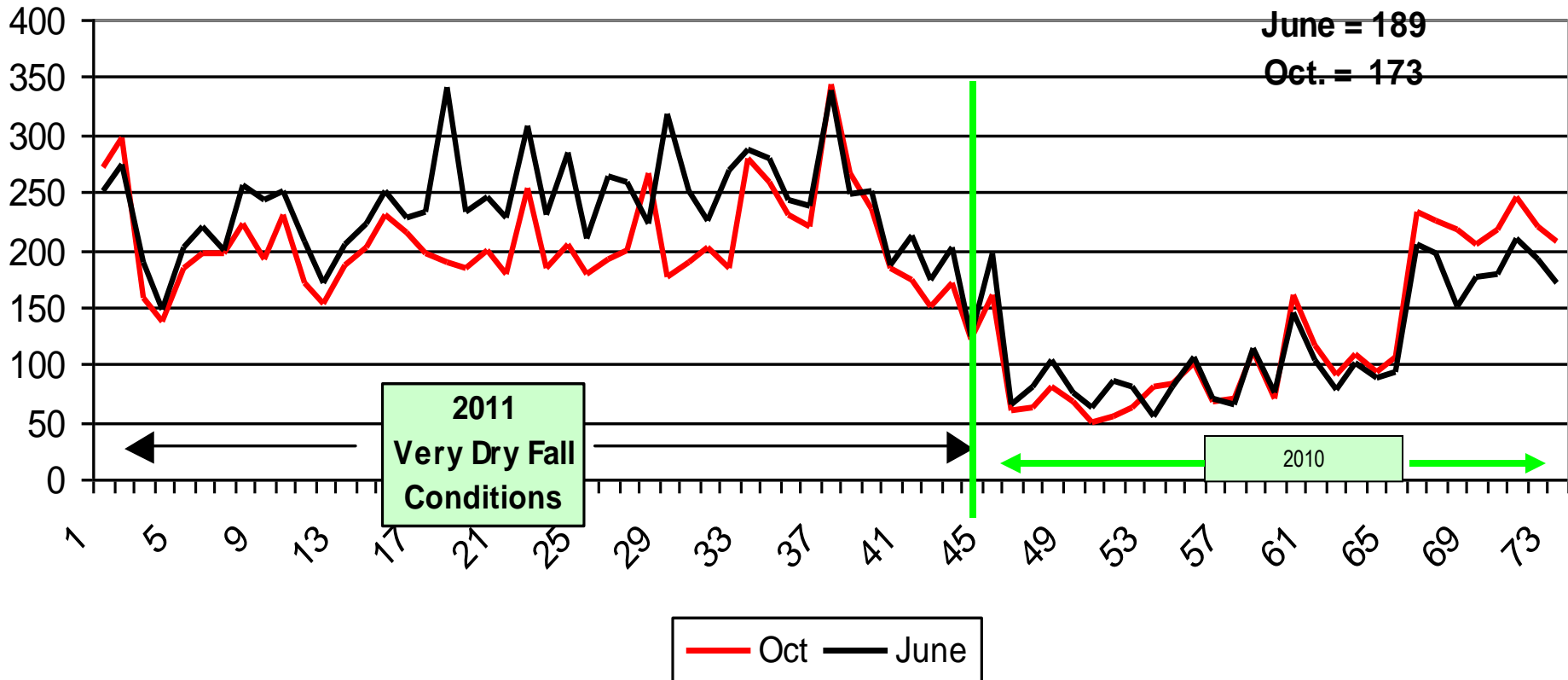
## Early Summer vs Fall

Potassium

Average

June = 189

Oct. = 173

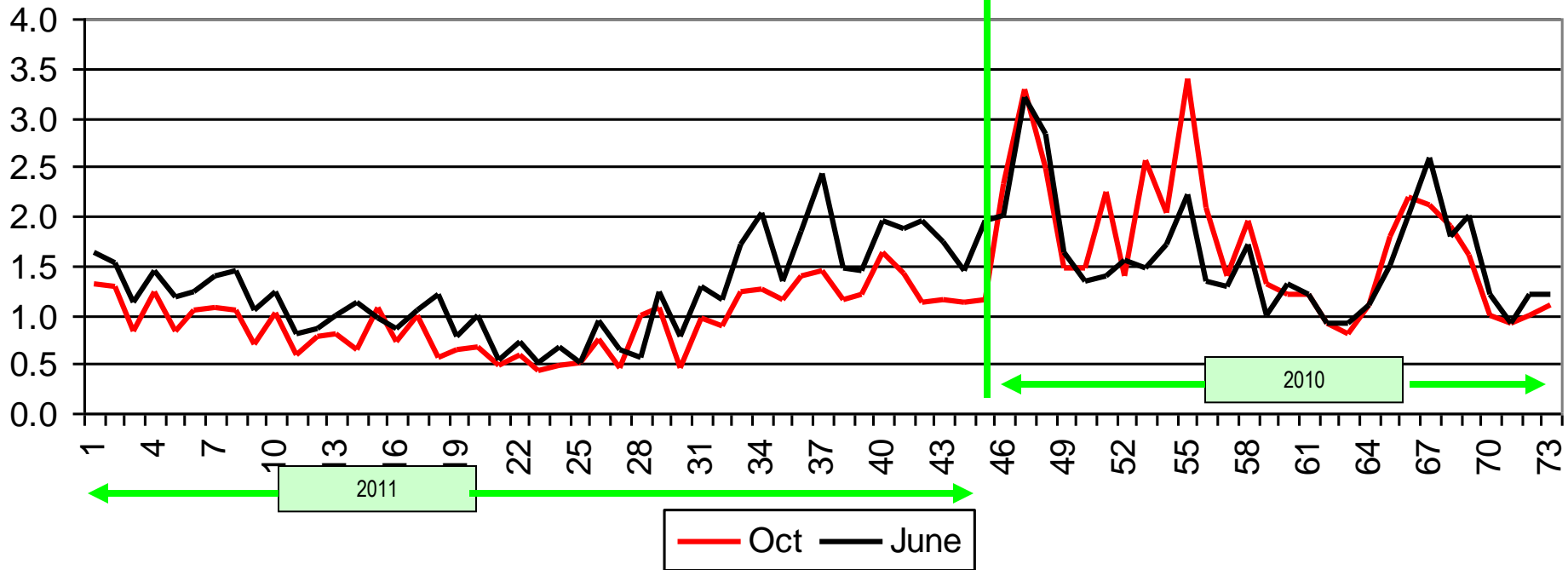


# Sample Date Comparison Project

## Early Summer vs Fall

Zinc

Average  
June = 1.4  
Oct. = 1.2



# Sample Date Comparison Project

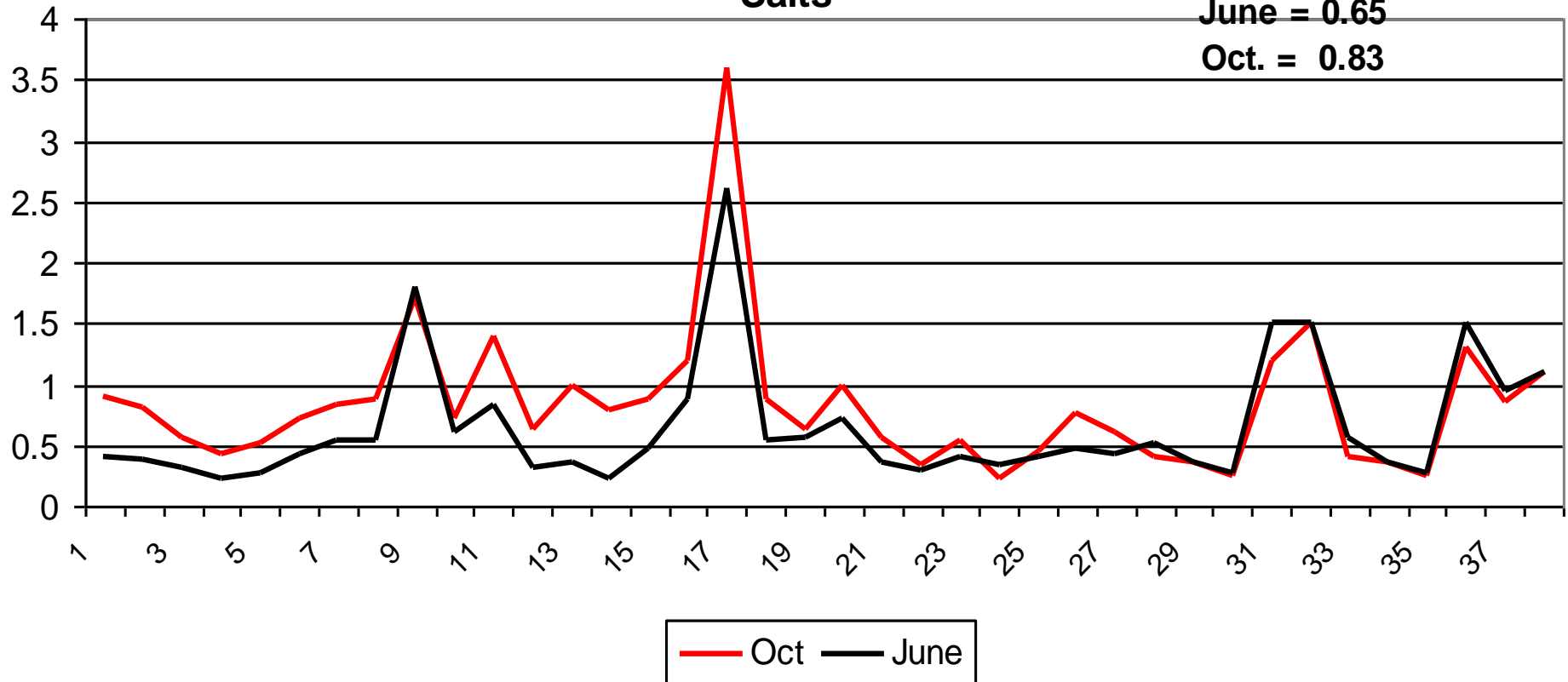
## Early Summer vs Fall

### Salts

#### Average

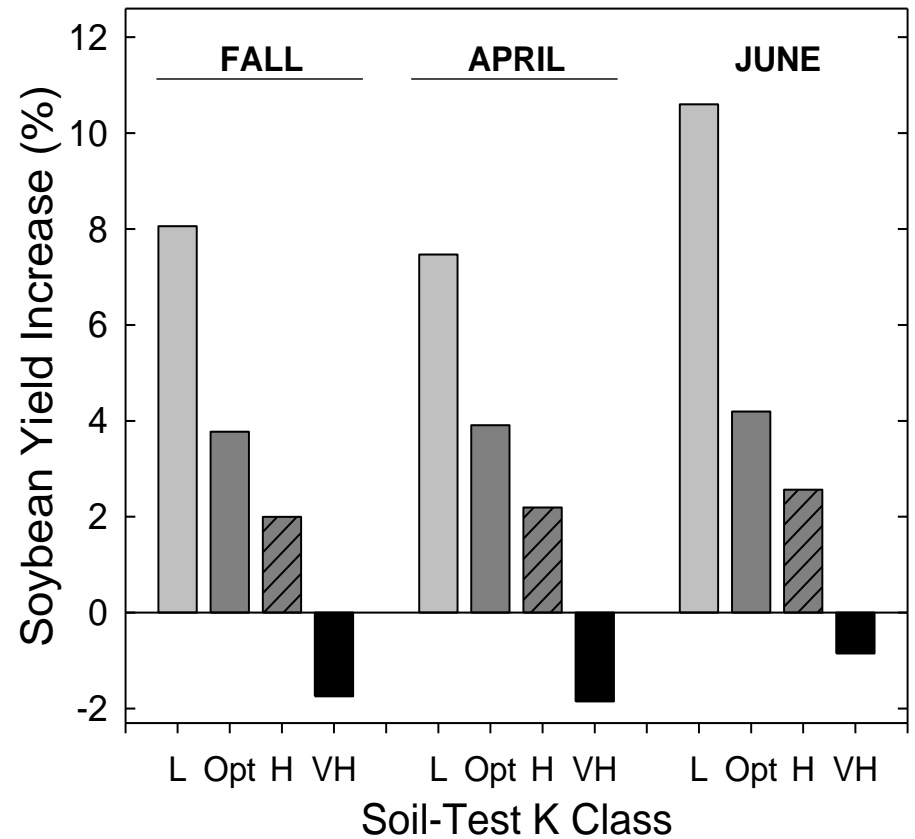
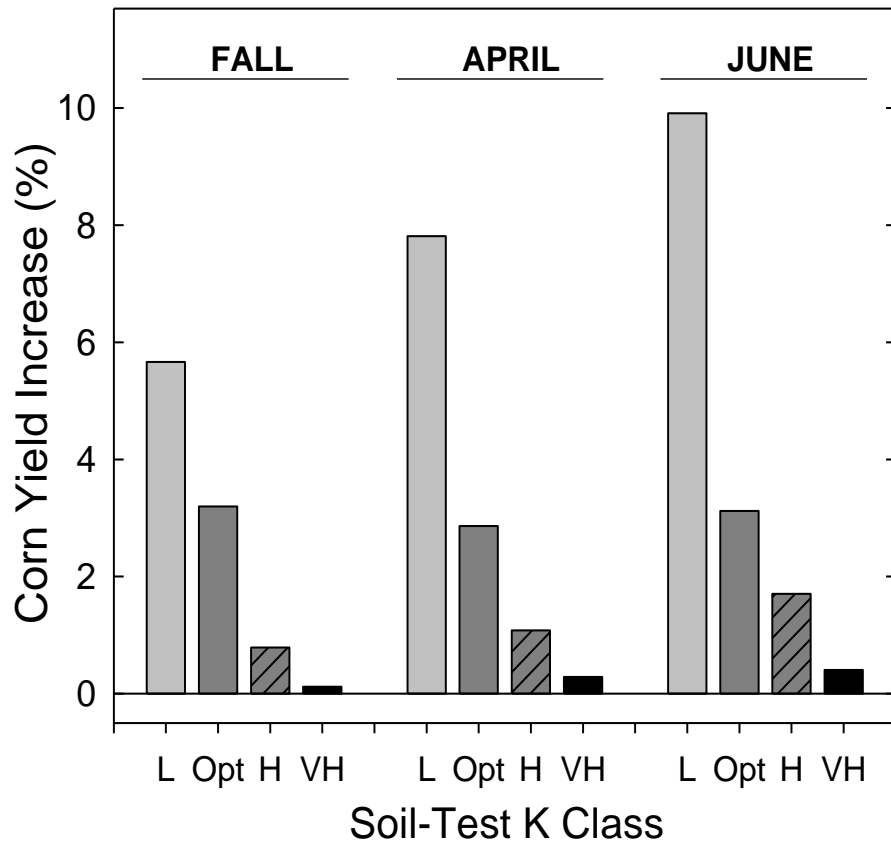
June = 0.65

Oct. = 0.83

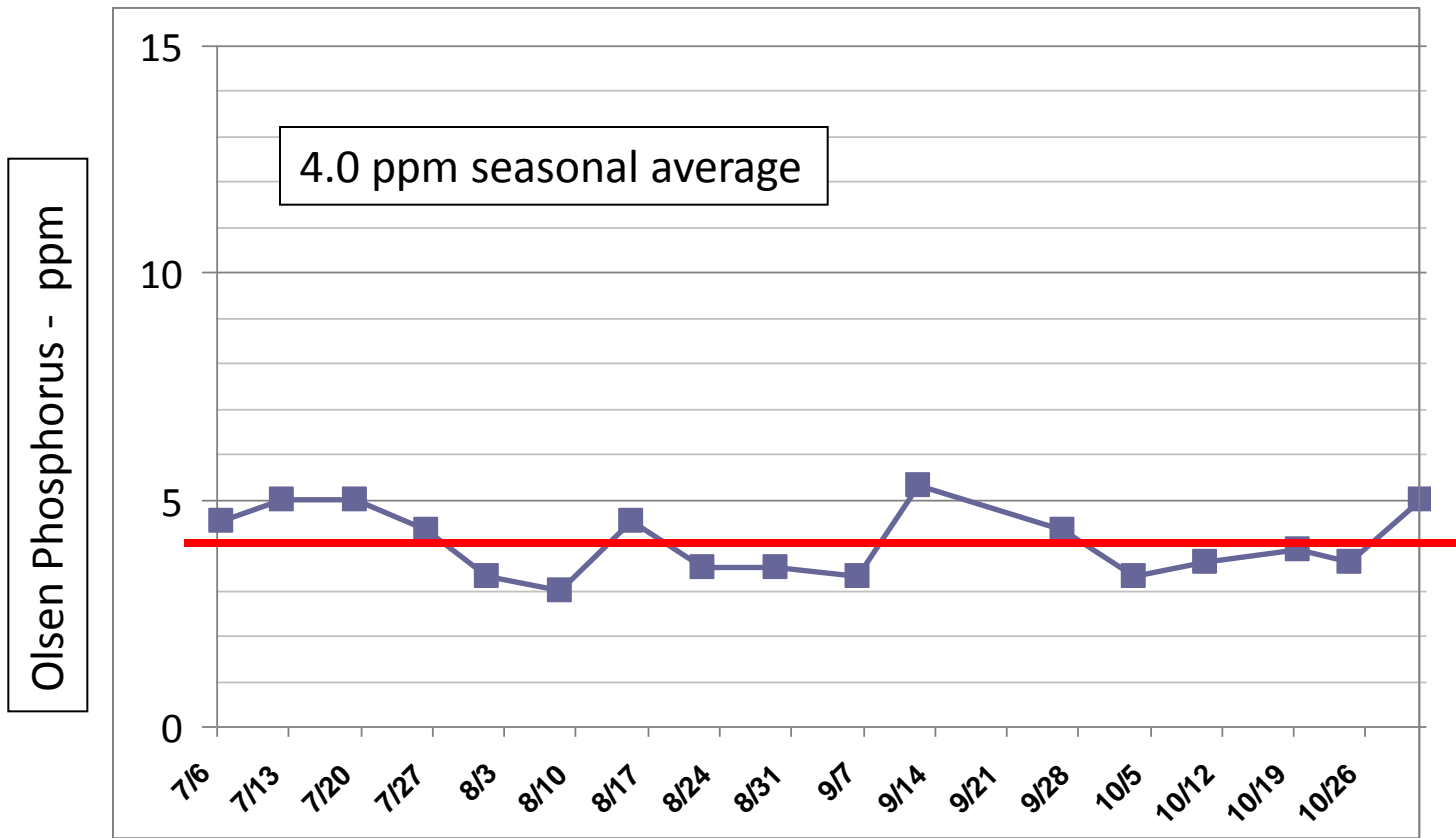




# What Sampling Time is Better?

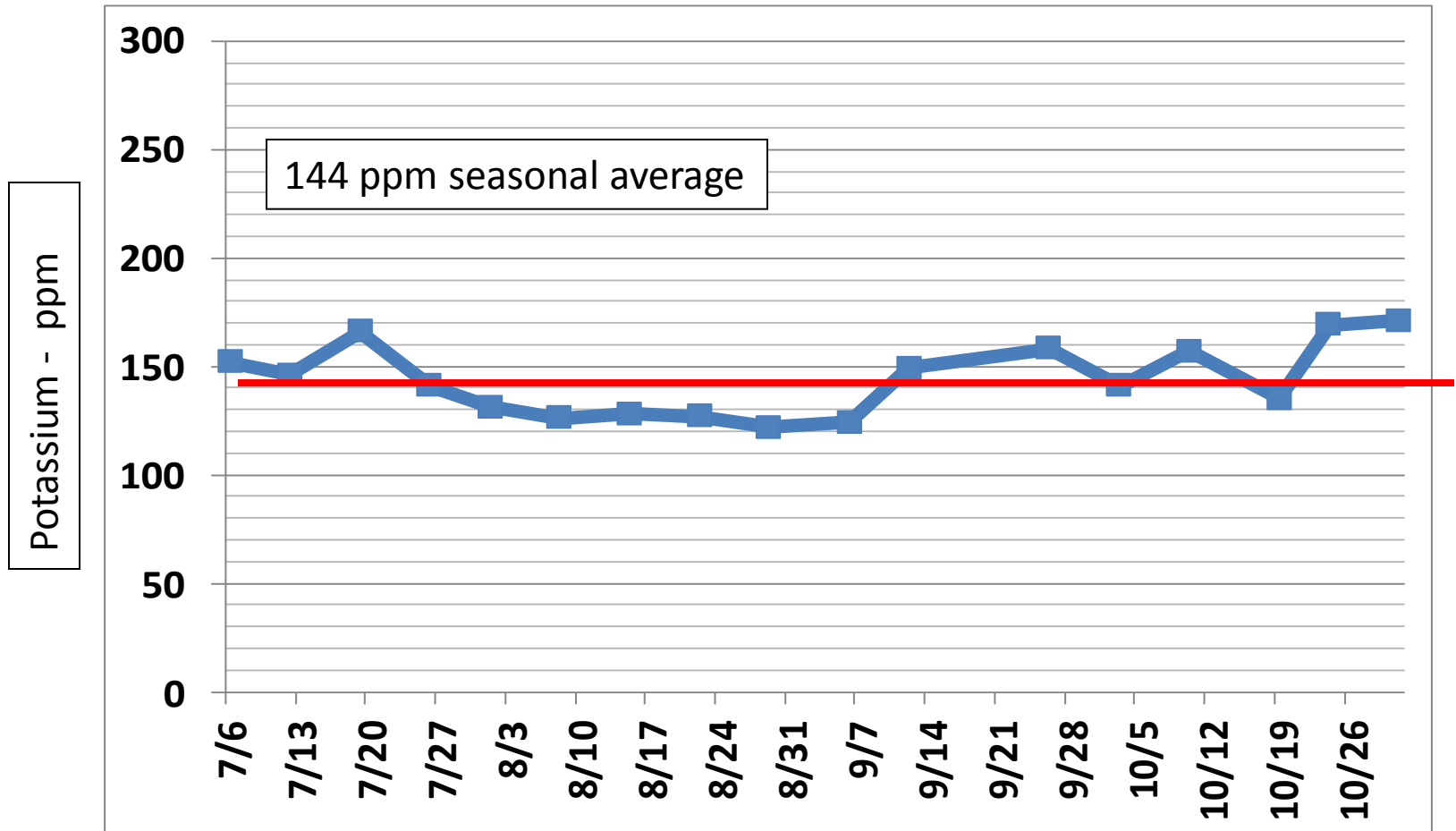


# Phosphorus – Seasonal Trend 2011



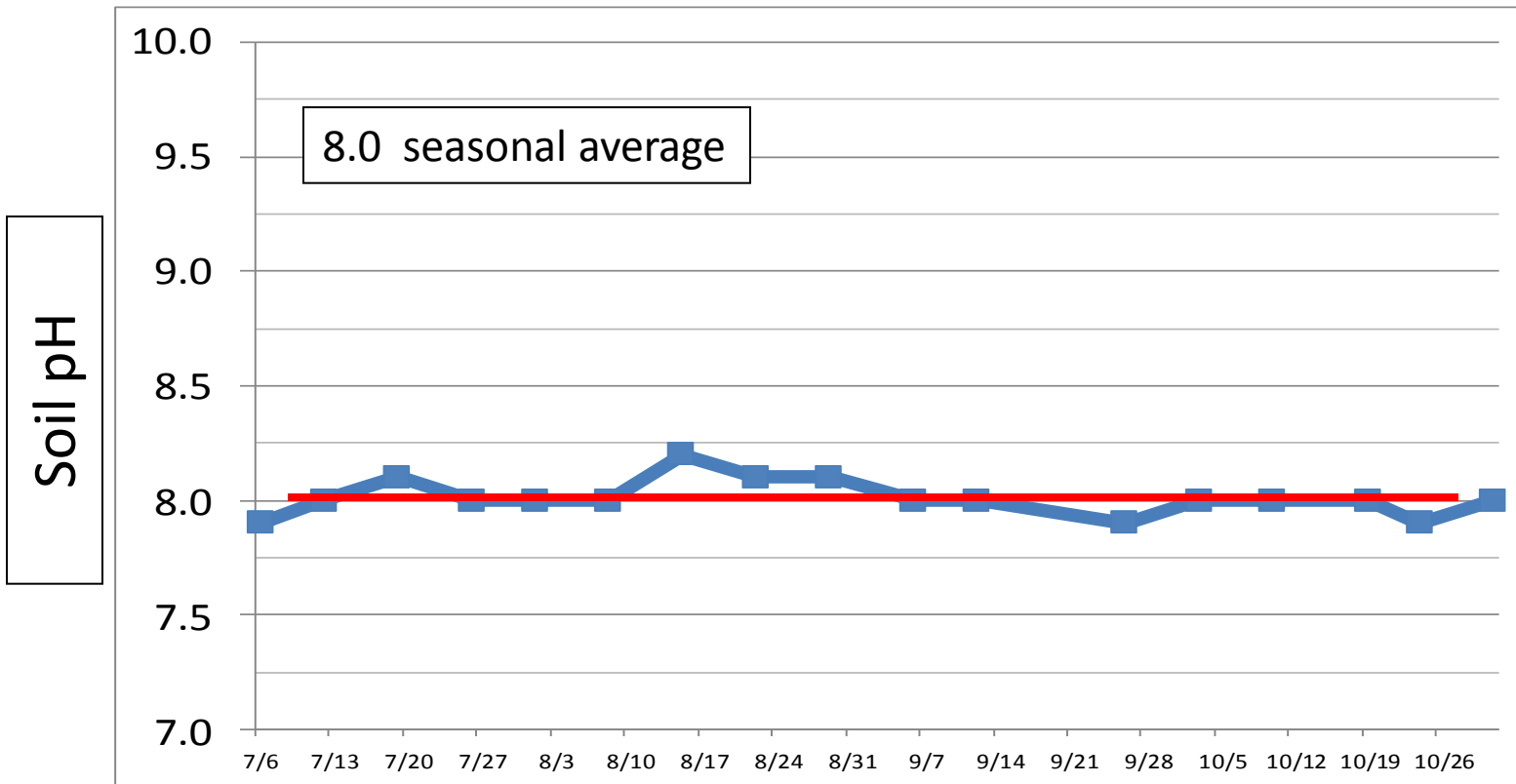
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

# Potassium – Seasonal Trend 2011



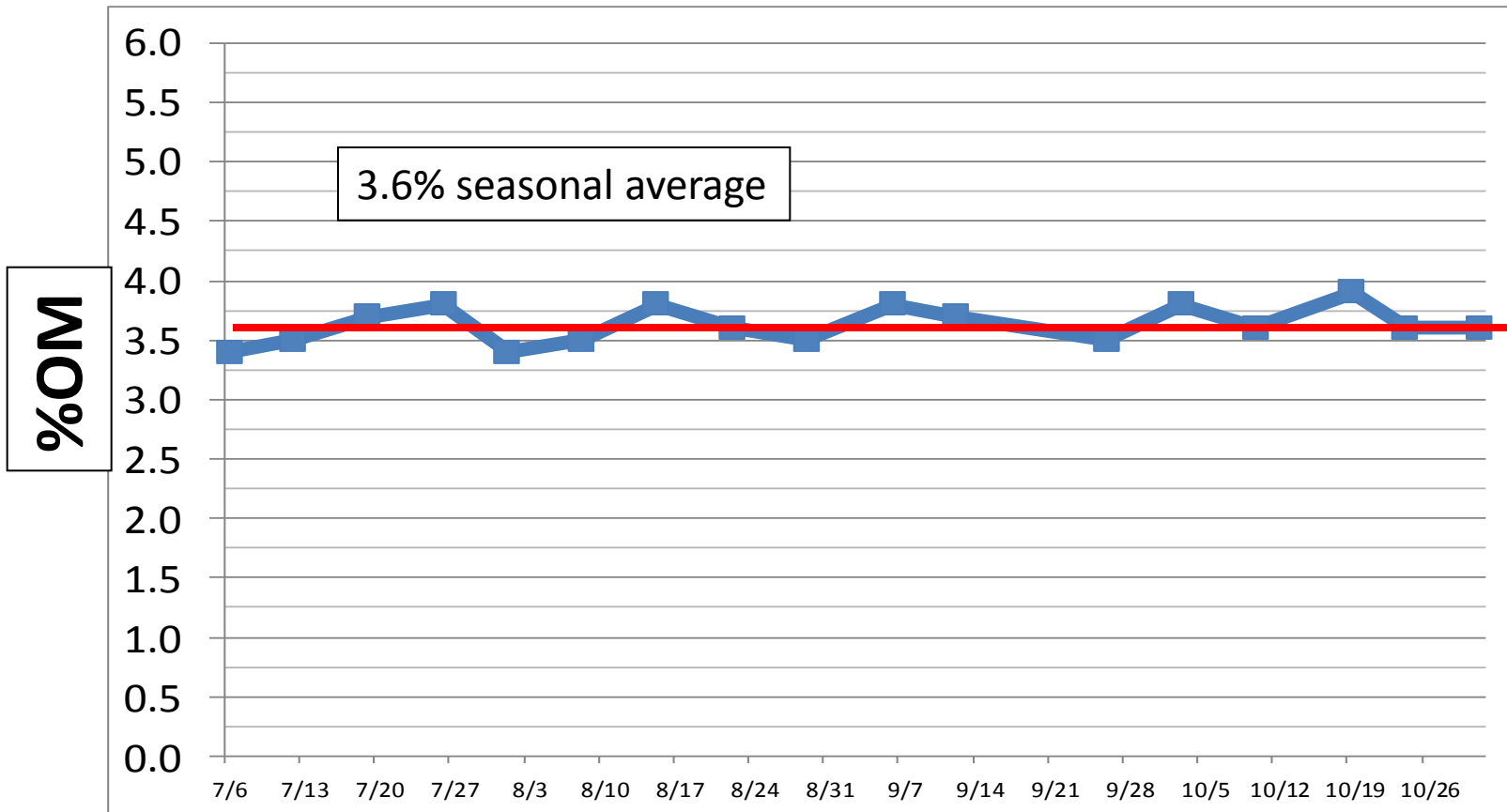
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

# *pH – Seasonal Trend 2011*



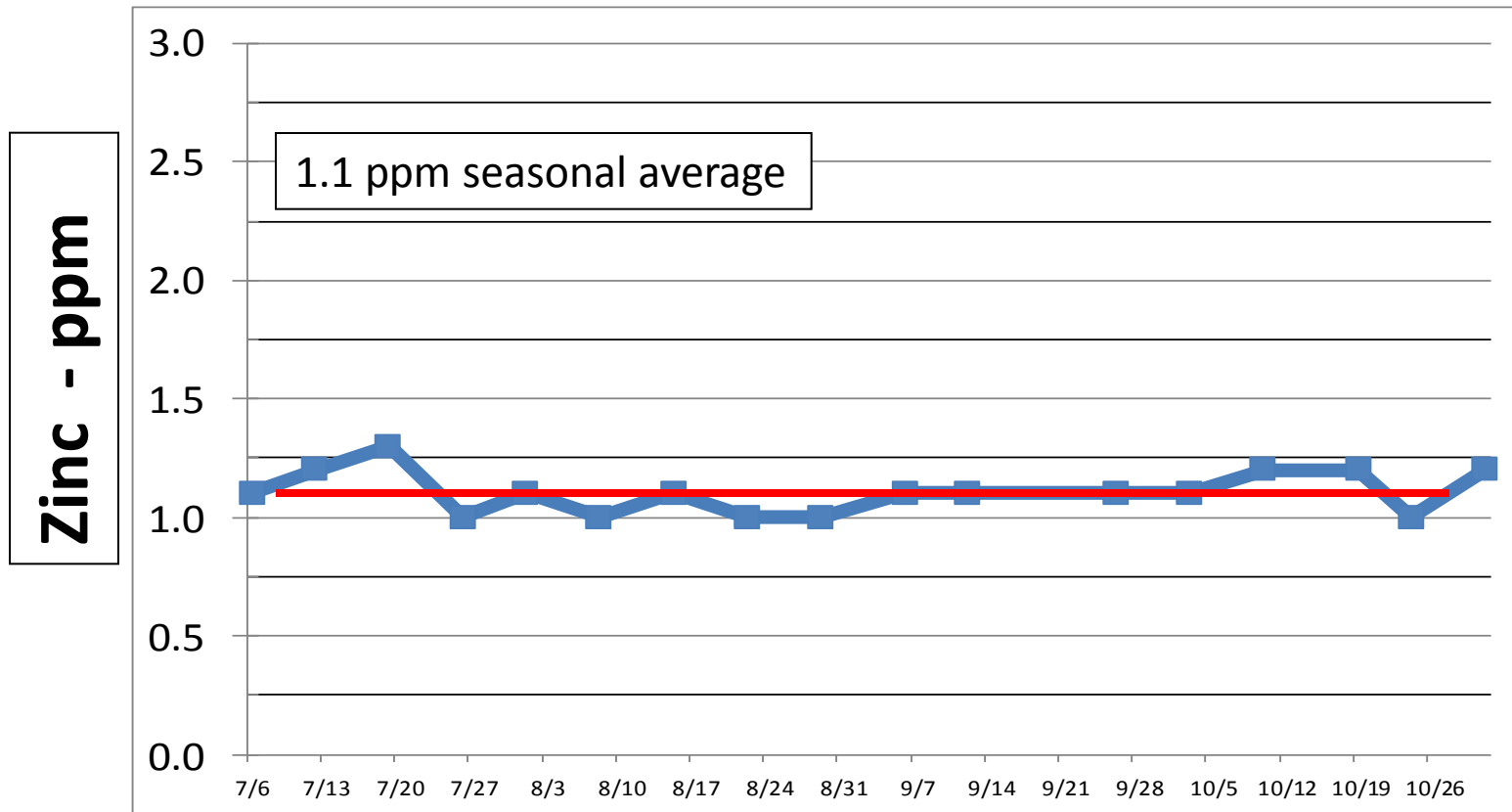
Average of 4 topsoil samples from two fields sampled weekly near Northwood, ND

# %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

# Benefits and Advantages of Early Summer Sampling for Growers, Dealers, Samplers and Agronomists

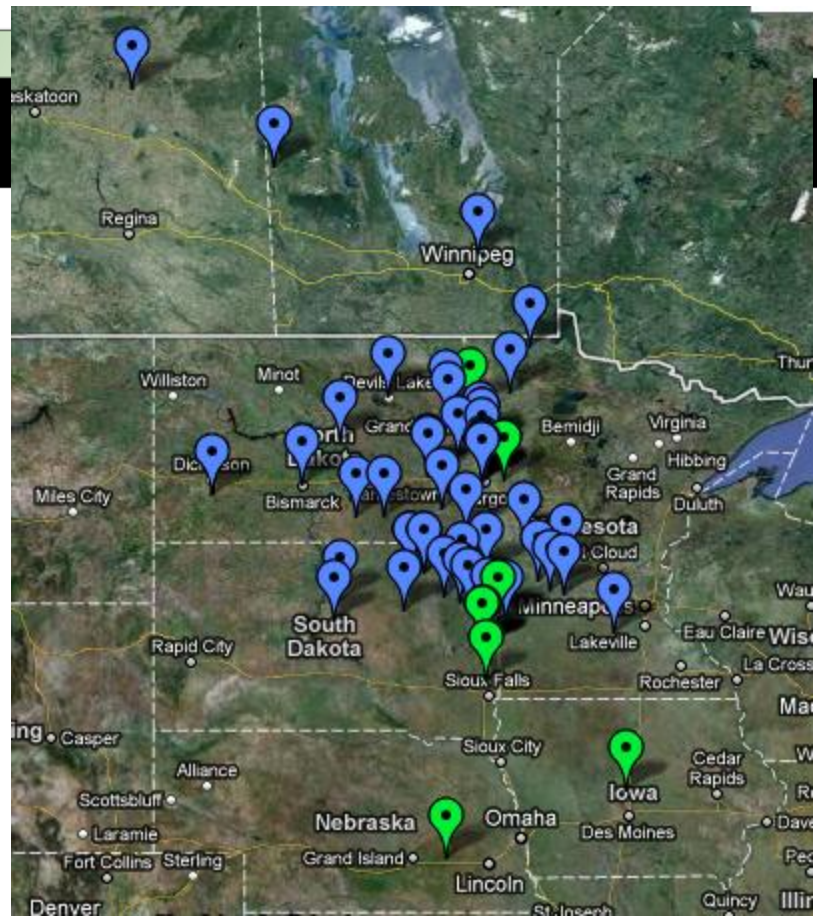
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Alliance of  
Site  
Specific  
Providers

# ASSP

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- Annual Meeting
- Feb. 21, 2012
- Aberdeen, SD
- Ramkota Inn
- 10 AM to 4 PM





**2012 Precision Ag Conference**  
**Wednesday, February 22**  
**Ramkota Inn, Aberdeen SD**

**Registration is \$20 per person**  
**until February 15.**

**\$25 per person at the door.**



# 2012 Precision Ag Conference

- Program information and registration will be available at [www.iGrow.org](http://www.iGrow.org) or contact **Mark Rosenberg** at **605-626-2780** or **mark.rosenberg@sdstate.edu**



# 2012 Precision Ag Conference

## Featured Speakers include

- **Kurt Reitsma, SDSU Extension**
- **Dr Dan Humburg, SDSU**
- **Tom McGraw, Midwest Independent Soil Samplers**
- **Calbe Kleinsasser, Raven Industries**

Plus a **Trade Show** featuring Precision Ag services and businesses

# FSA Map Services Update

## Surety Online Mapping From Agridata, Inc.

- 1) Feb. 1, 2012: Change occurs
- 2) Each individual will have to create a their own user name.
- 3) Surety Pro version will be available ~ March 2012
- 4) Price stays the same for 2012:
  - 1) \$300 for first user
  - 2) \$150 for each additional user

# FSA Map Services Update

## Surety Online Mapping

### From Agridata, Inc.



Welcome to *Happy Holidays*

- HOME
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- ONLINE SERVICES  
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- SOIL SAMPLING GUIDELINES
- 2009 SEMINAR PRESENTATIONS
- AGVISOR GOLD INSTRUCTIONS  
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### Surety Mapping

Access to AgriData's Surety Mapping System now requires a login.

[Agvise users click here to create an individual username and password.](#)

If you are NOT associated with [Agvise Laboratories](#) Account number [zz9999](#) [click here.](#)

If you have already created an account login above.



**SECTION 1619 UPDATE**

**Contact Us**  
701-746-8580