Ways To Be More Precise, Effective With Fertility Of No-Till Corn

Bob & Monte Bottens
Bottens Family Farm
Cambridge, IL

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Henry County, IL

- Home to
  - Past History
    - Most hogs in U.S.
    - Most Oats grown in Illinois
  - Today Narrow row corn Promoter
    - Calmer Corn Heads & Marion Calmer

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CAT

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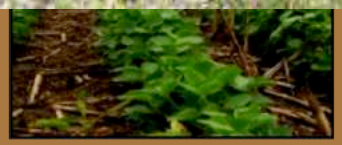

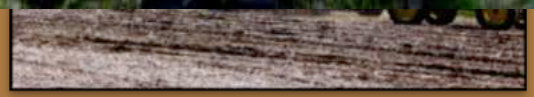

Overview for our farm 2013

- Current Production Practices and Equipment Capabilities
- What we learned in 2013
  - Fertilizer Opportunities
  - Impact of Drainage Systems
  - Green Seeker-NDVI
  - In-Row Trial

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Nutrient Application Opportunities

- Pre-plant
- At Planting
- Side-dressing
- Foliar feeding

Pre-Plant

- Broadcast dry 0-0-61 & 11-52-0 by soil test, if needed.
- No Nitrogen fall or spring pre-plant
- All No-Till
  - No disturbance
  - Planter Only (no wavy coulters)

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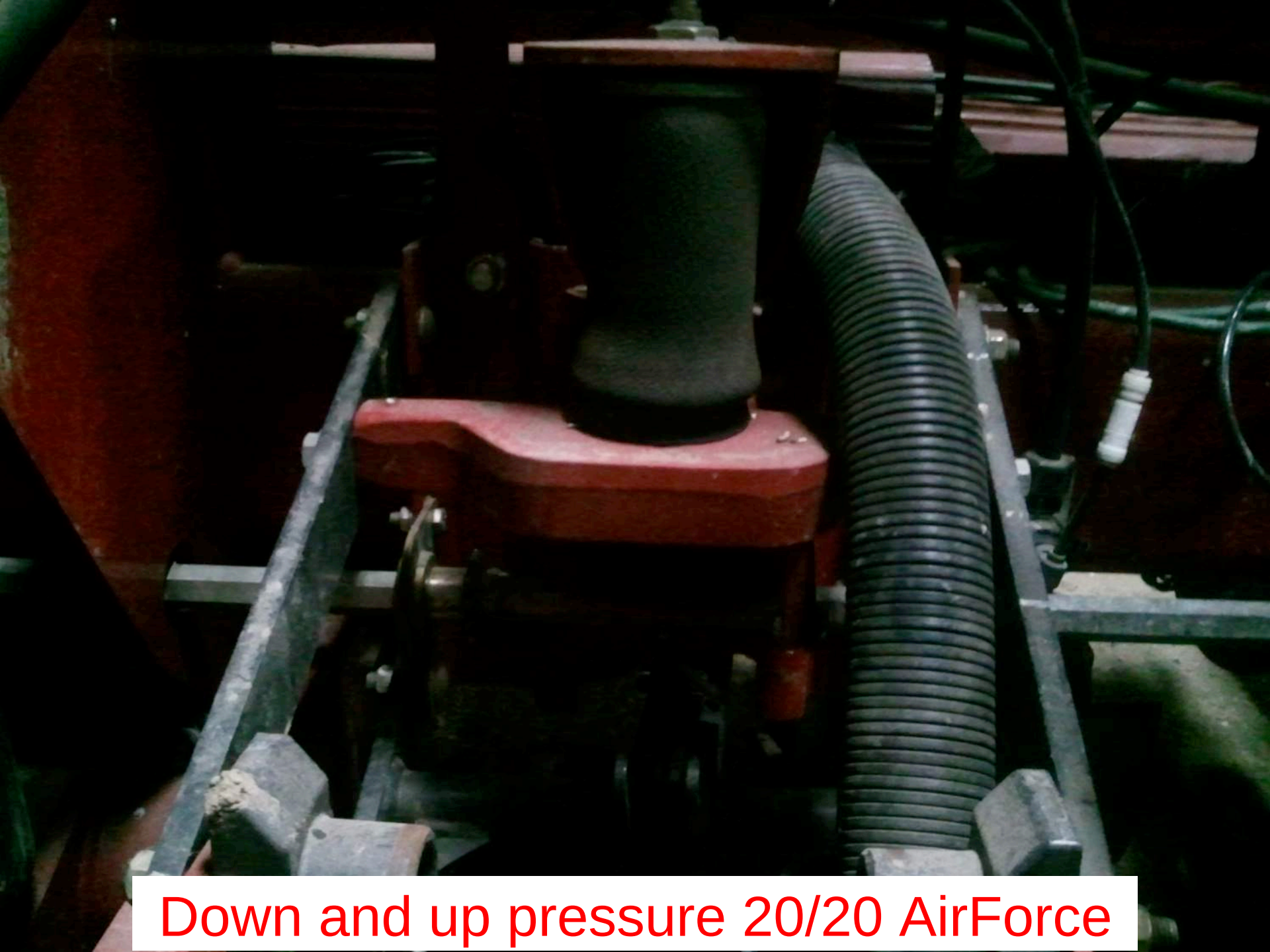
At Planting

- In-furrow starter mix
  - Ignition (9-20-3), Accelerate (Micros), Rev-Up (Bio-Chemical)
- 3 x 2 beside row Mixture of:
  - UAN 32 for 75-115 units total N
  - 4-10-10
  - Thio-Sul 12-0-0-26

3” x 2” Nutrition and Residue managers

3” x 2” Nutrition and Residue managers


Down and up pressure 20/20 AirForce

Thio-Sul
4-10-10
In-Row Starter
UAN 32
3x2 NPK
3 Product mixing
VRA Pumps &
Controls

YIKES! TOO MUCH TIME!

- 4 compartment truck tender (60 acres per fill)
- 17 Minutes to refill every 2 hours (26.3 vs. 30 acres/hour)
  - In-Row Starter Mix (5.6 gal/A) w/insecticide in field
  - UAN 32 to fill pull behind (22 to 40 GPA)
  - 4-10-10 (15 GPA)
  - Thio-sul (5 GPA)
  - 3 transfer pumps running simultaneously
- WARNING…Takes more time at Harvest Too!

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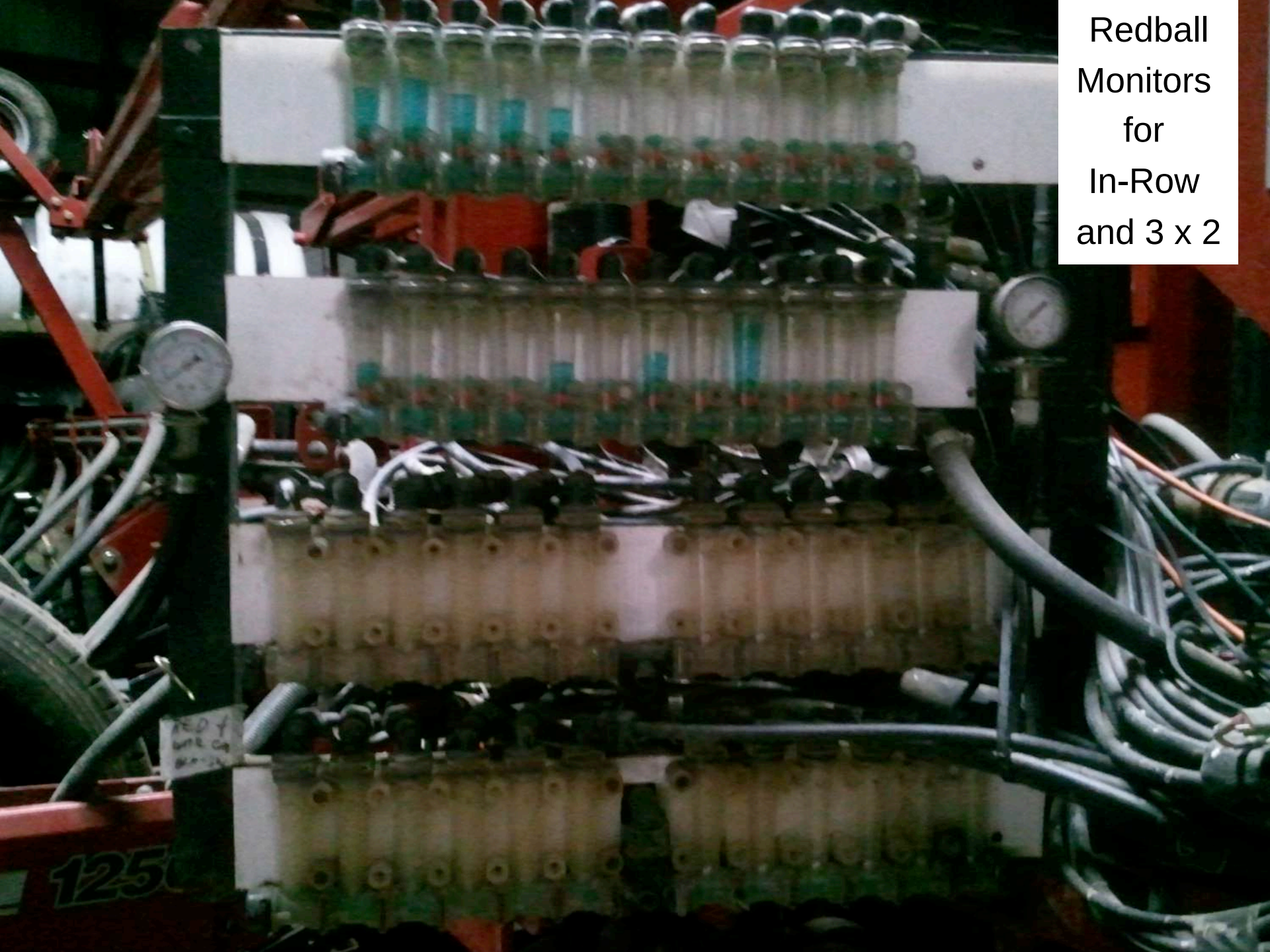
4 compartment truck with 3 Pumps
with suck and blow

3 Product mixing VRA capable



Redball Monitors for In-Row and 3 x 2

Insecticide injection pump into on-seed fill.

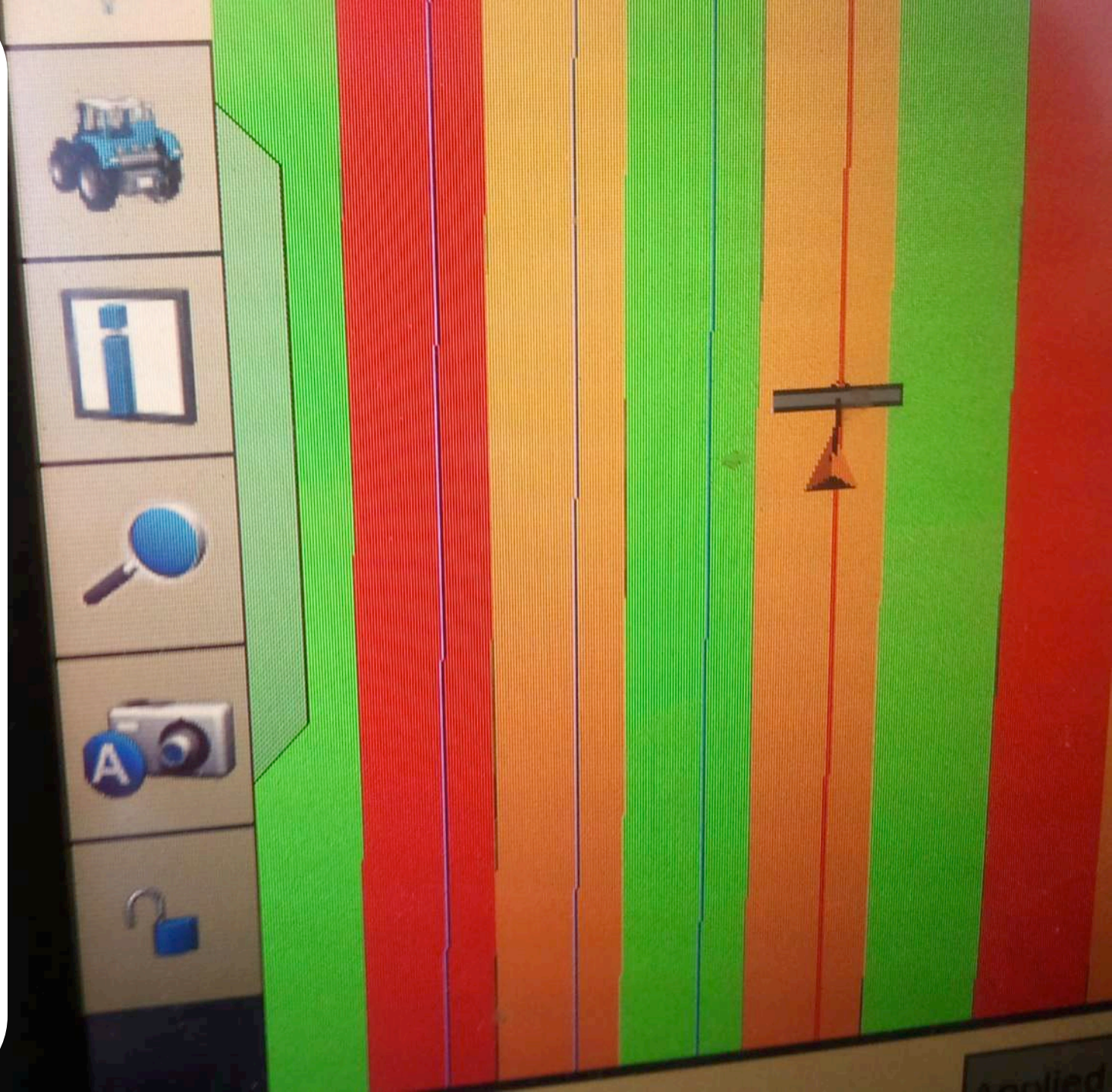
Roadmap to success

- History of your fields
  - Know where you came from to know where you are going
  - Data-Data-Data
    - Record everything-every pass-everywhere every year

Applied Rate
29.12 gal/a
N
Target 29.00 gal/a
Actual 29.06 gal/
L29
Location 1: 32 sidedress
Record Every Pass
Side-dressing

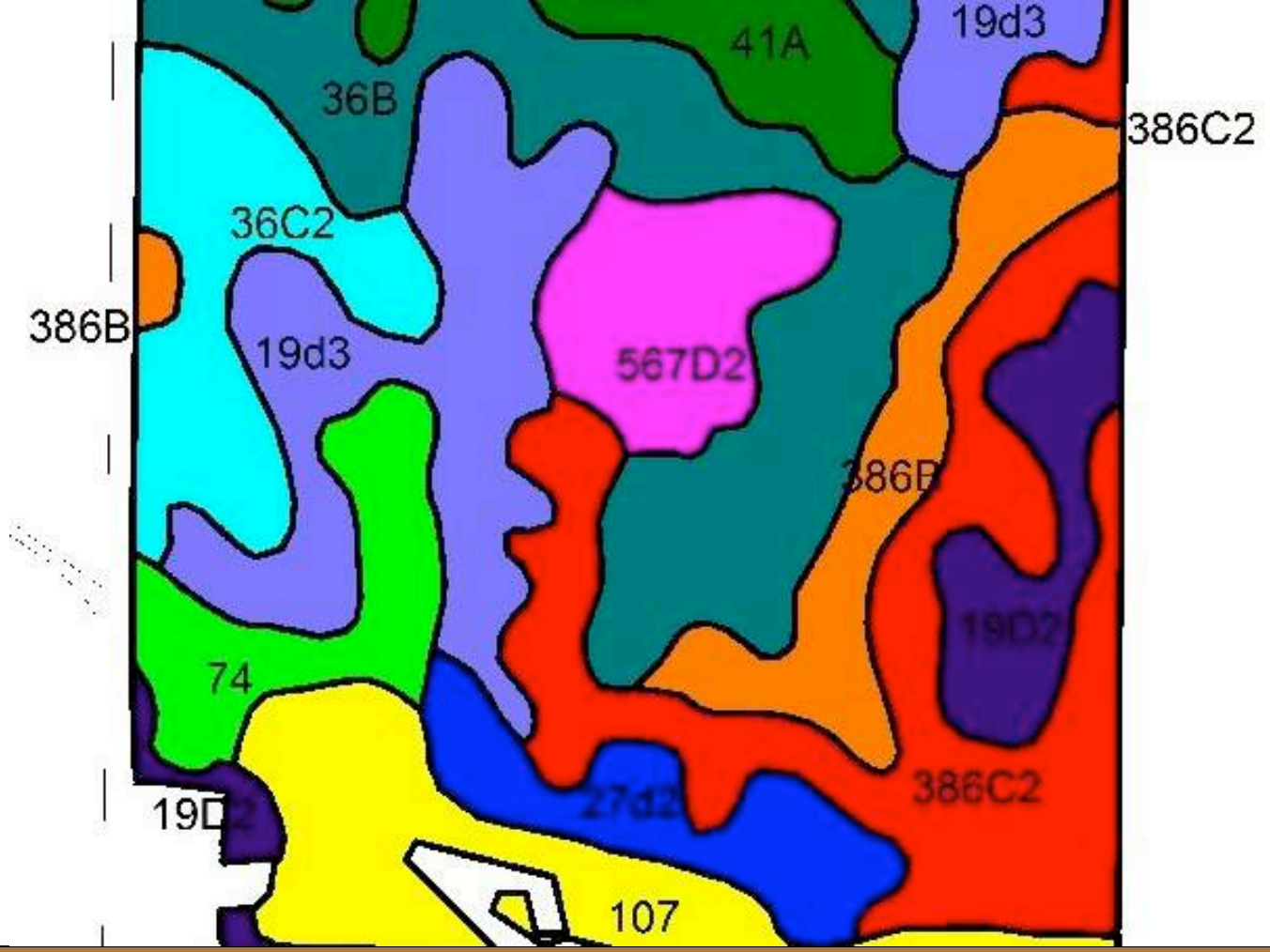
In Cab Application Playback

3 application rates pictured



Soil types

Slopes
A: 0-2%
B: 2-5%
C: 5-10%
D: 10-18%



Slopes Simplified
- **A: AAHHHH**
- **B: Not Bad**
- **C: Come on**
- **D: Dang It's Steep**

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Corn on Beans Planted 5/2/13
Corn on Corn Planted 5/8/13
Picture Taken 6/7/2013

6/14/13

6/22/13

NH SP275 120 Ft sprayer, power for toolbar

Green seeker

Sensor

4 on 12 rows

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8/15/13

8/15/13
Maybe Roots Make a Difference?

8/18/13

Drainage

- Works (needed) for us

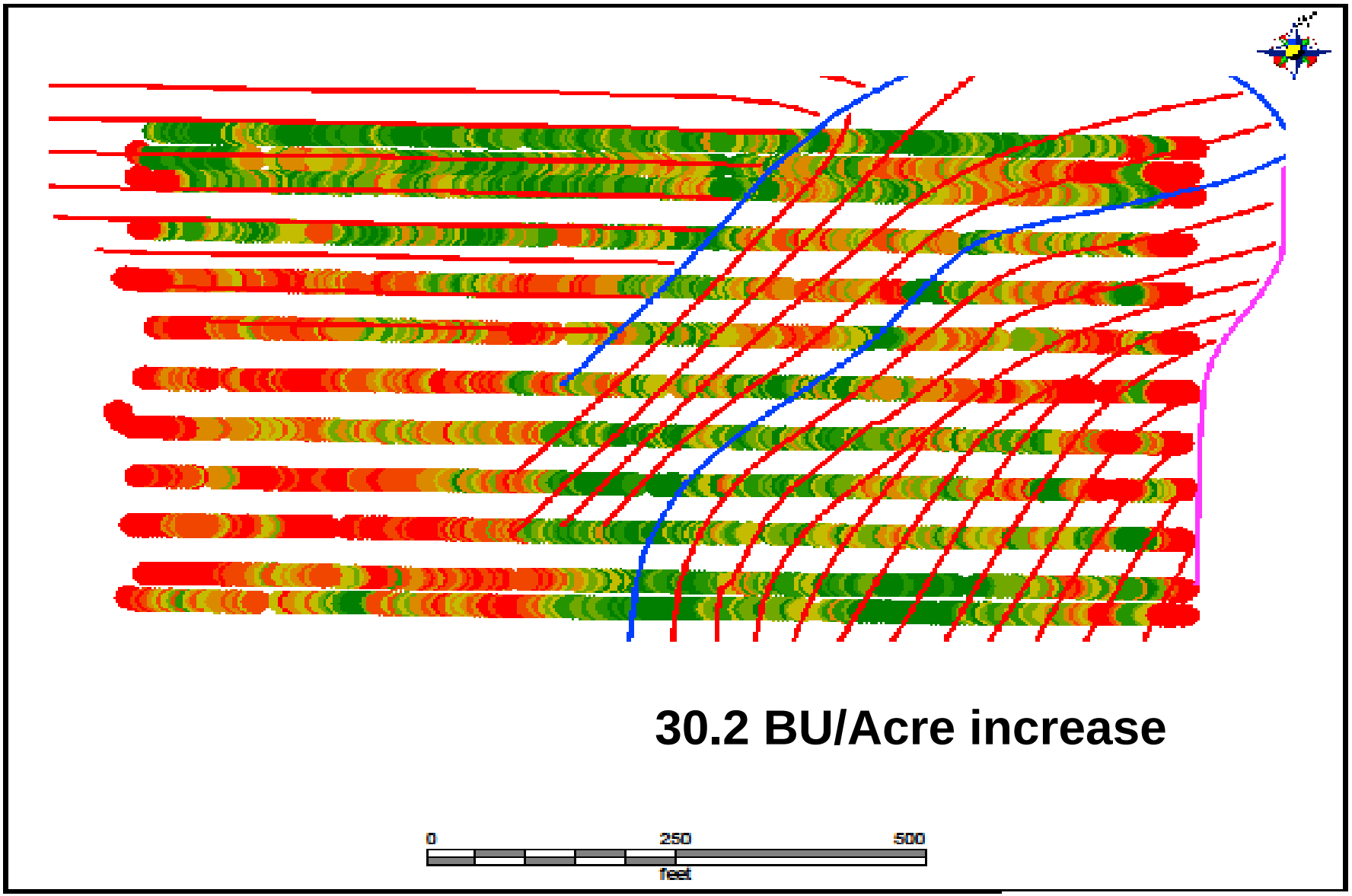
4
hours
after
rain

24 hours after rain

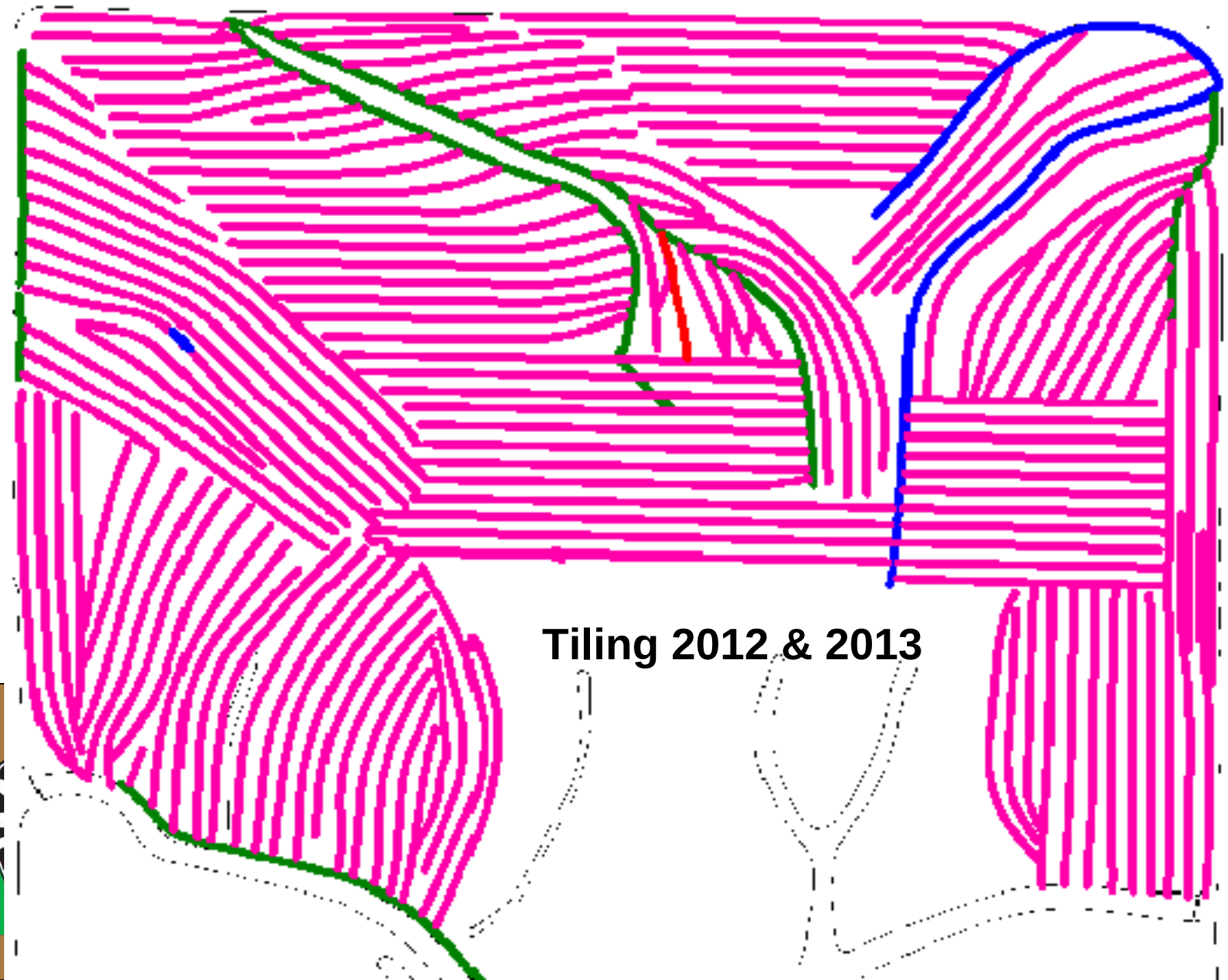
1.

96
hours
after
rain

Hwy plot area



BOTTENS
Family Farm


Tiling 2012 & 2013

NDVI (Normal Difference Vegetative Index)

- Greenseeker
  - Toolbar
  - Handheld
- Aerial imagery 5/13,7/4,7/11,8/10,8/16
  - Weather
  - Timeliness

NDVI (Normal Difference Vegetative Index) readings

- What to expect
  - Readings throughout season
  - Application anomalies

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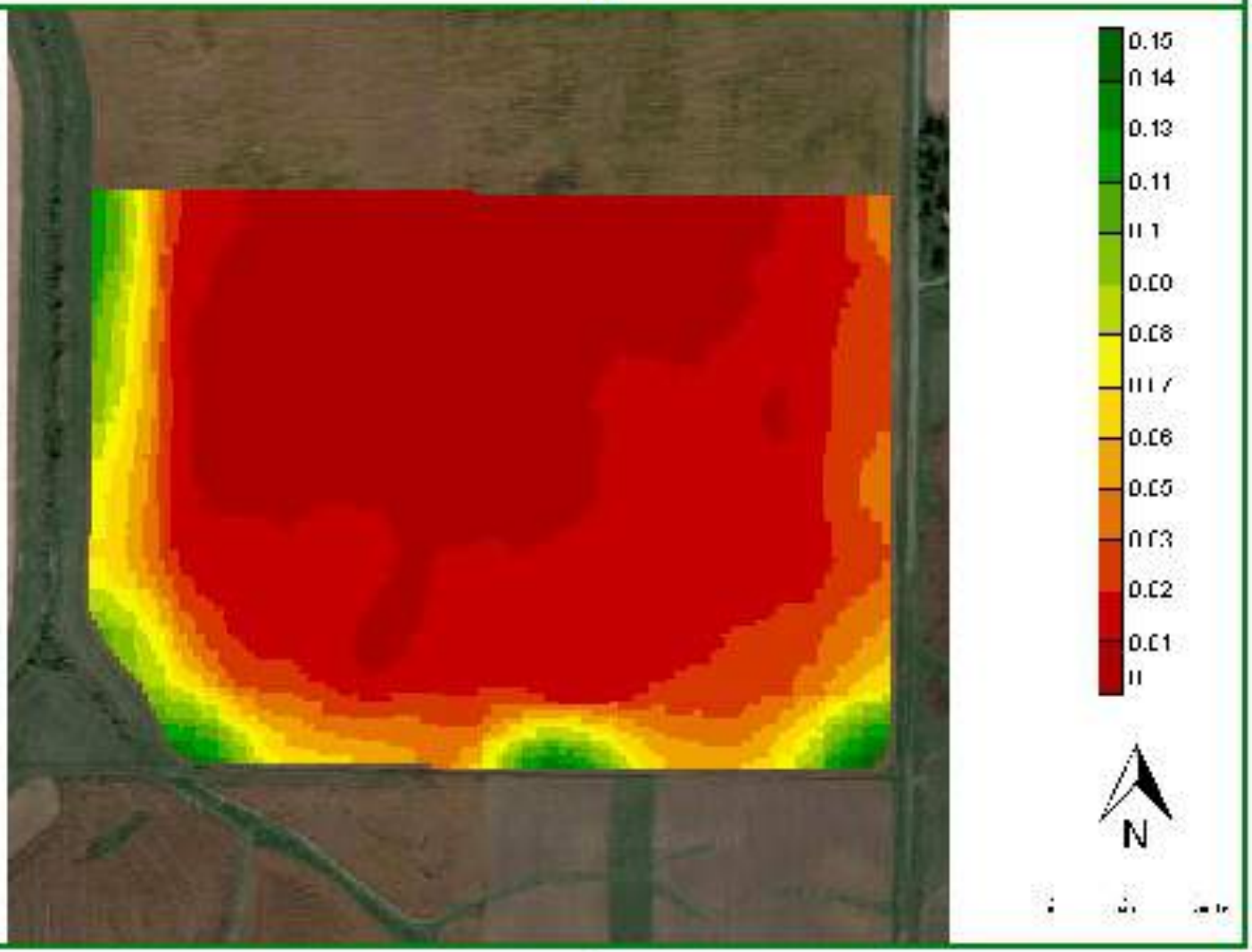
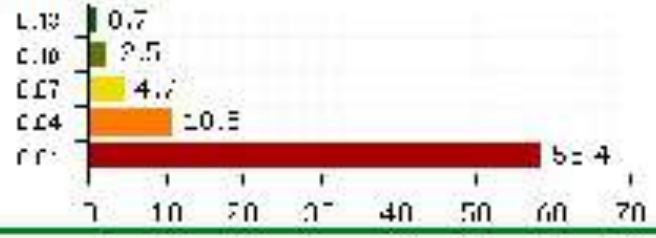
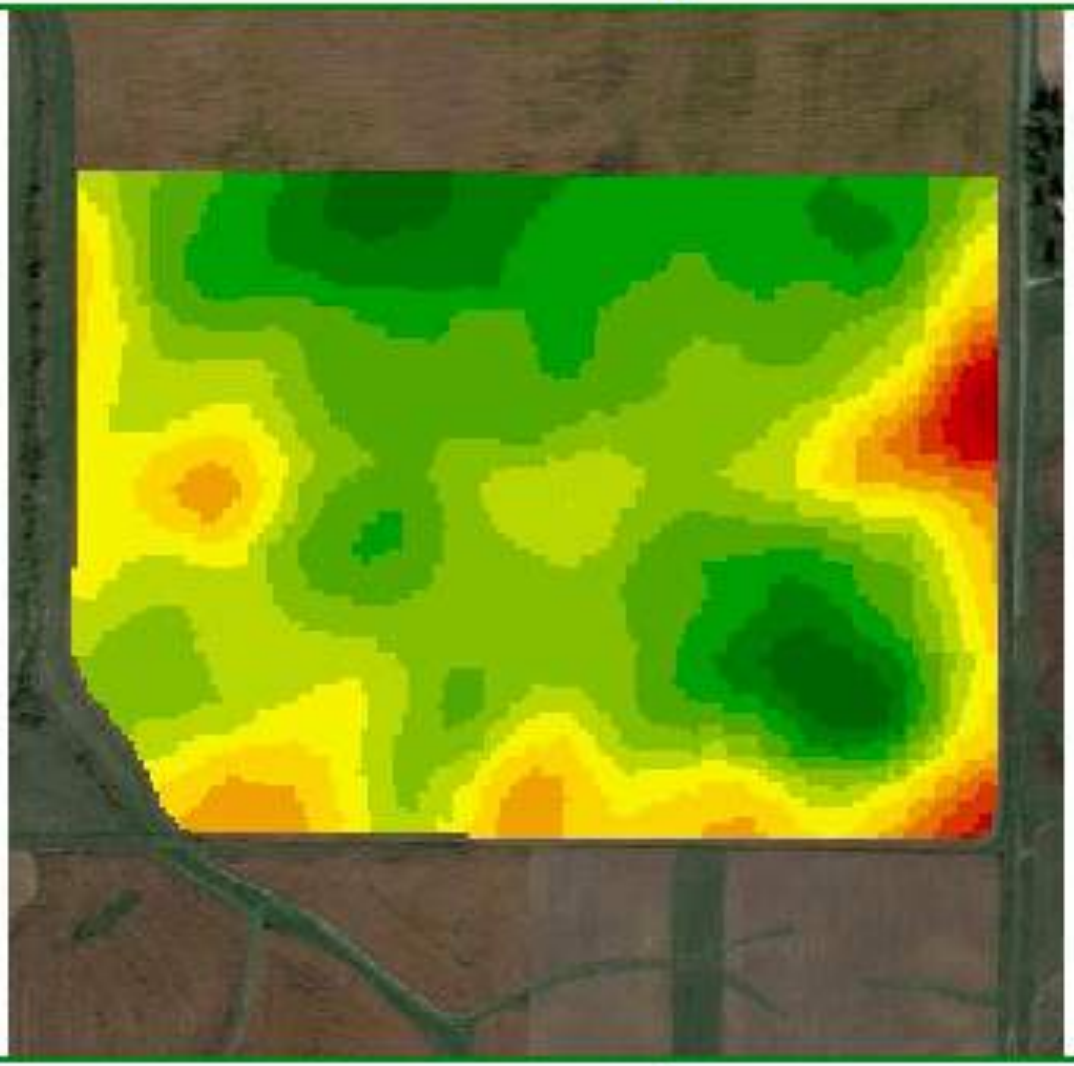


NDVI Acreage

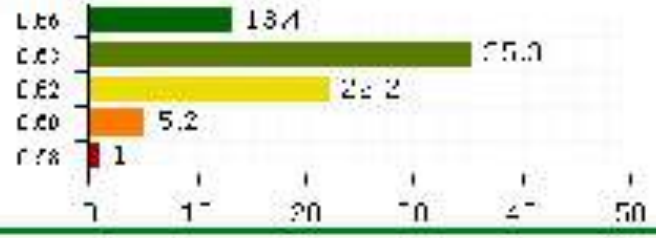


Imagery date : 5/13/2013

Map created on : 6/3/2013



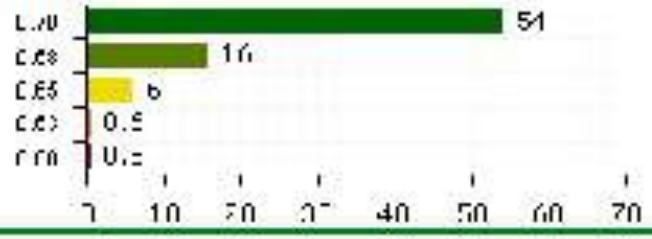
NDVI Acreage



Imagery date : 7/4/2013

Map created on : 7/9/2013

NDVI Acreage



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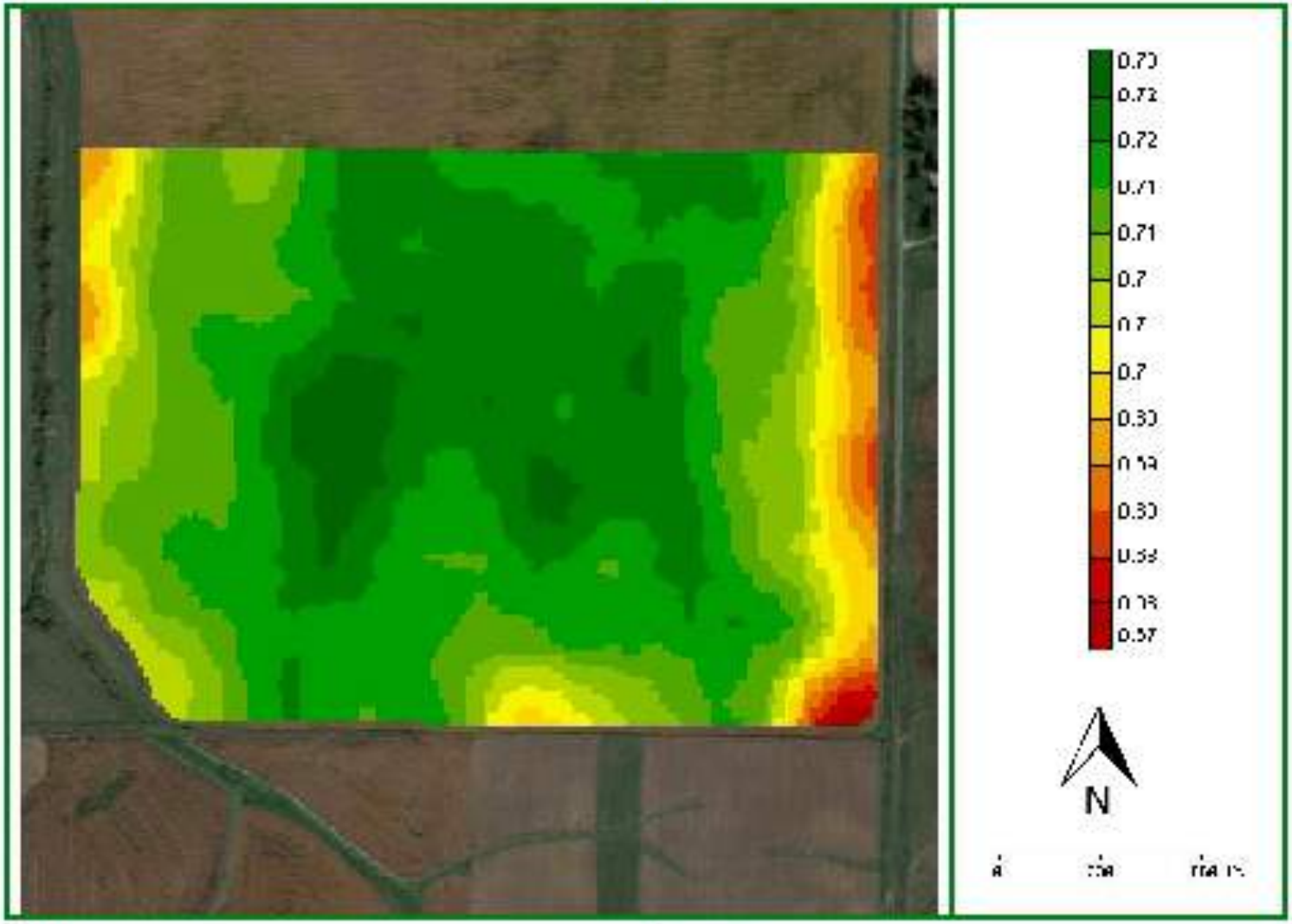
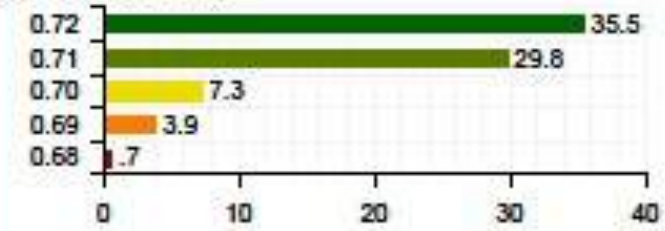


NDVI Acreage



Settings

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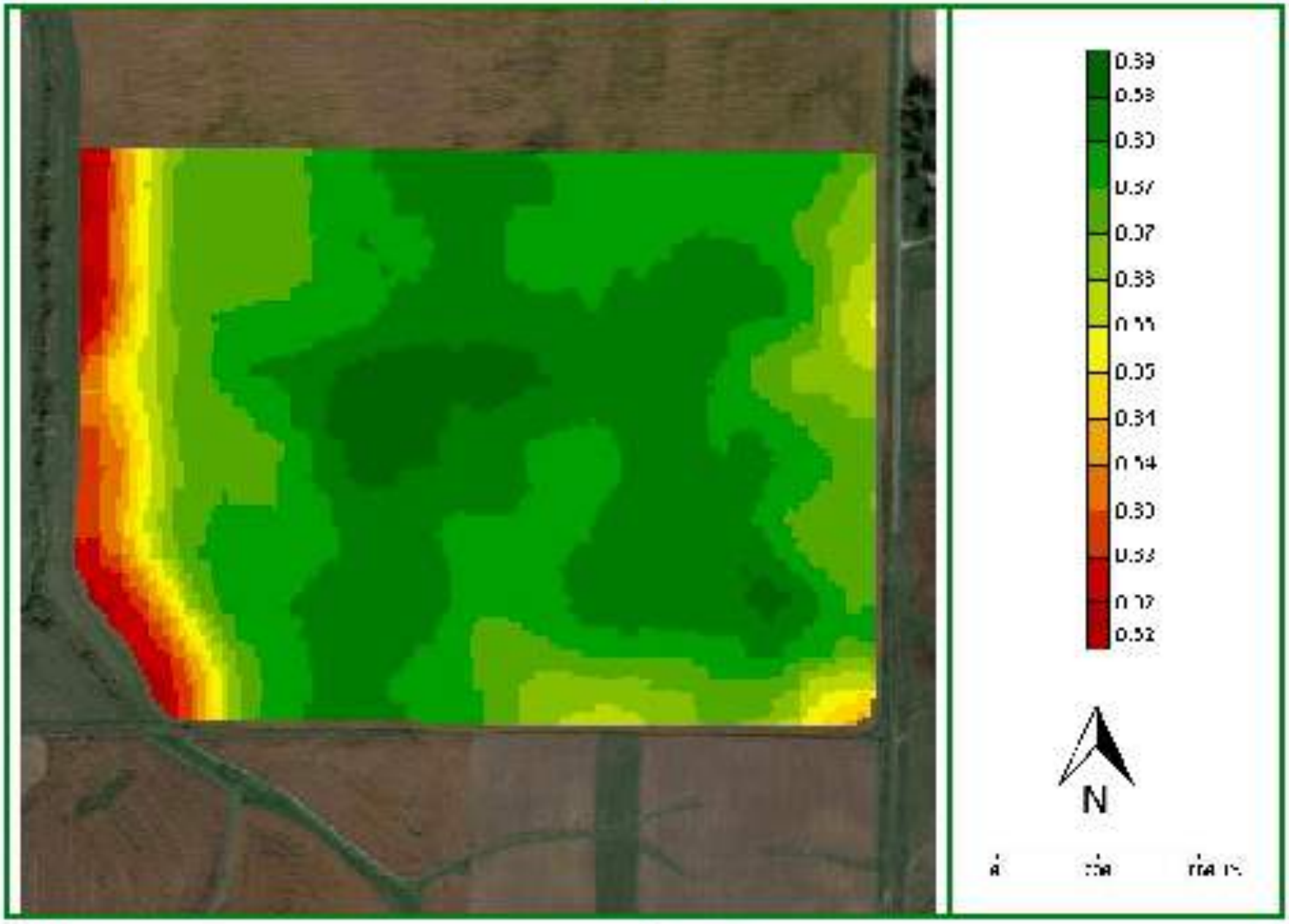
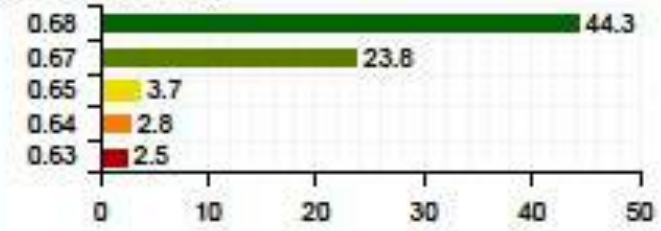


NDVI Acreage



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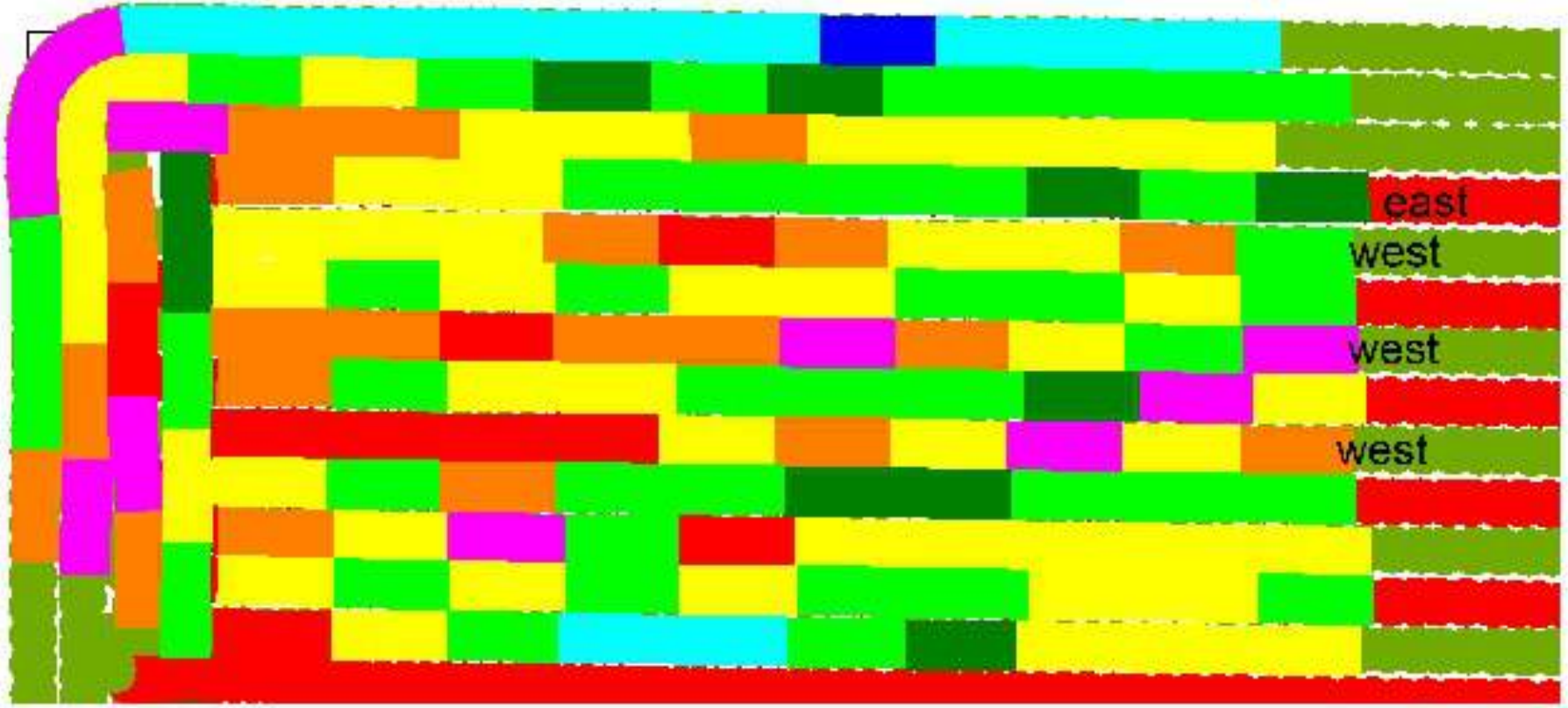

Direction is everything

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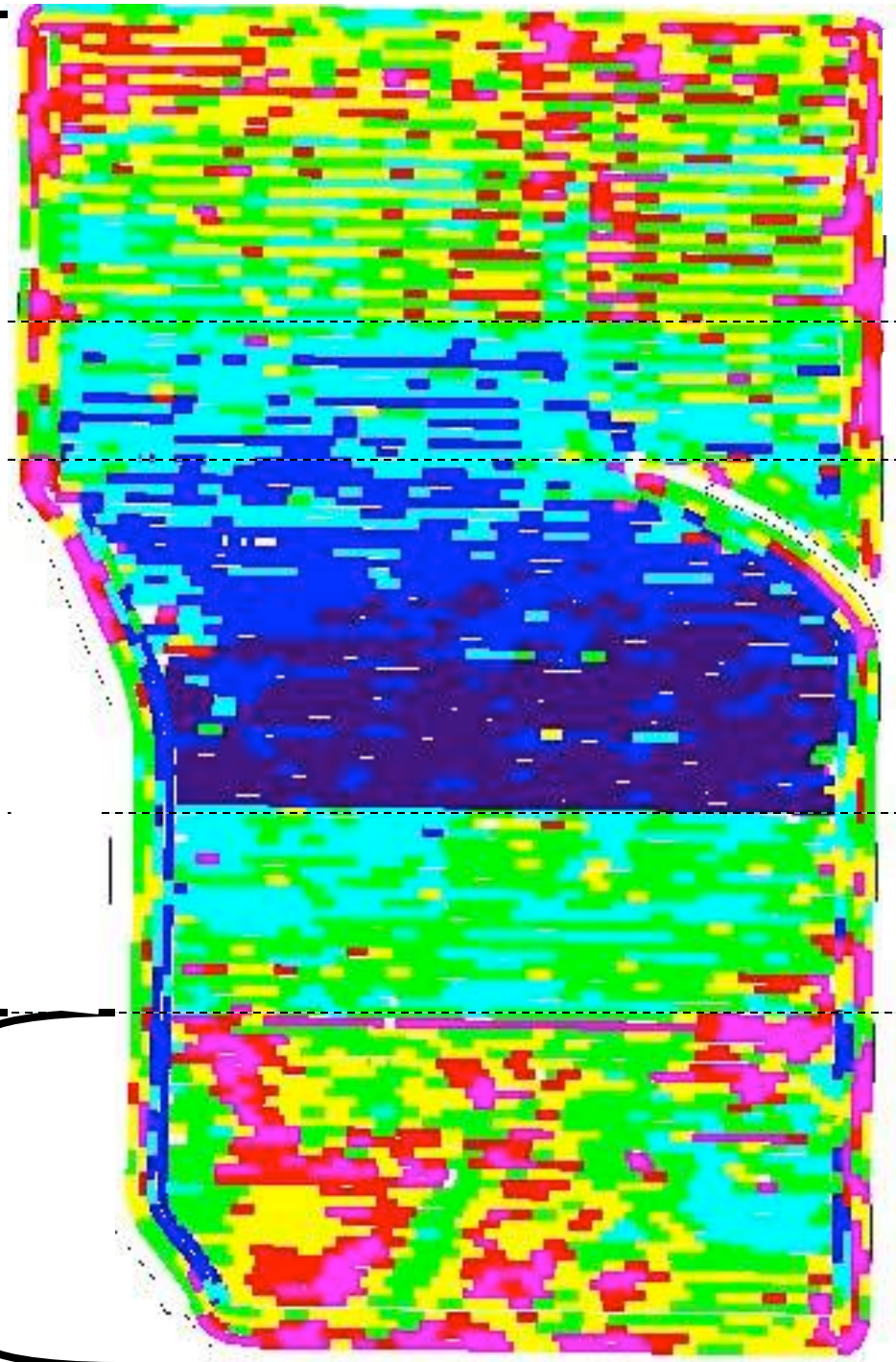


May 2 Planting Date

May 8 Planting Date

Application Time

1:00 PM-4:30 PM

6:14 PM-7:14PM

7:30 PM-9:30 PM

(dark blue after dark)

9:00 AM Next Day

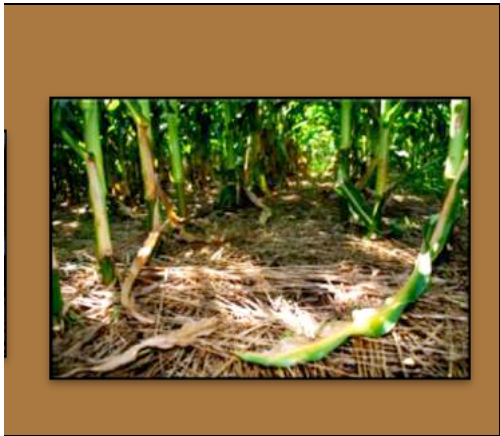
Later Planting

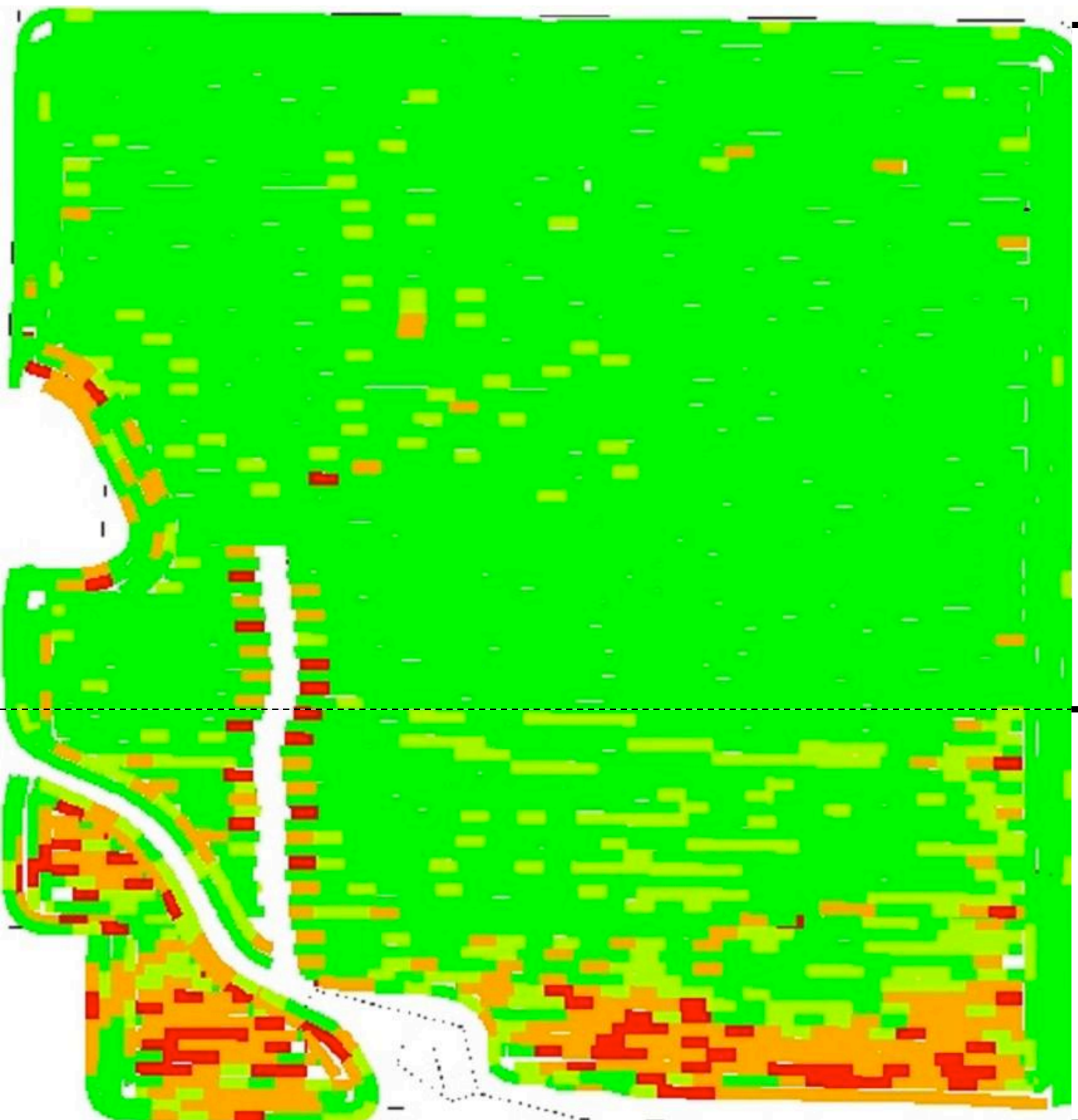
Testing to get Results

- Side by side replications

  Start with consistent field and history

Pattern tiling 1998





N Rates Constant on Starter Trial Area

Turned on Greenseeker VRA

Aug 15

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ANP	204.0	3.1
Coop	200.9	
Coop	203.7	3.2
ANP	207.0	
ANP	209.6	12.5
Coop	197.2	
ANP	197.4	2.9
Coop	194.5	
Coop	194.9	7.7
ANP	202.6	
ANP	199.7	3.9
Coop	195.8	
AVERAGE	200.4	5.6

ANP Versus Coop Trial

Plot Area Results

North Side of Field

Consistent soil

Weighed with scales

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ANP	201.1	3.0
Coop	198.1	
Coop	200.7	-0.9
ANP	199.7	
ANP	203.0	6.5
Coop	196.5	
Coop	191.3	4.0
ANP	195.2	
ANP	205.7	8.9
Coop	196.8	
Coop	197.4	2.2
ANP	199.6	
ANP	210.4	-0.9
Coop	211.3	
Coop	205.4	8.0
ANP	213.4	
ANP	209.3	3.0
Coop	206.3	
Coop	192.9	2.5
ANP	195.3	
ANP	204.8	11.2
Coop	193.6	
Coop	198.0	-2.2
ANP	195.8	
ANP	193.5	2.7
Coop	190.8	
Coop	185.8	1.5
ANP	187.3	
ANP	187.6	8.9
Coop	178.7	
Average	**190.7**	**4.4**

ANP Versus Coop Trial

Rest of Field

Variable Soil

Yield monitor 1 load per pass

Entire Trial Area Difference
4.4 bu/a @ $4.25/bu = $19.25/a
Cost Difference = $12.77/acre

$6.49/a ANP advantage

Compaction Prevention 101
HARVEST
COMMANDER
KINZE
1050

Next Year Starts Here!

View with Stalk Stompers

Dec 1, 2013

Have we helped you??

- History—Data
- Prior yields—Data
- Drainage—Data
- Applications—Data
- Yields by ? ? ? ?--Data

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Recommendations

- Testing
  - Are you testing products or people
    - People
      - Represent products
        - » Products are always there
        - » People should understand your fields to recommend products to you

Wishing you a Successful 2014!