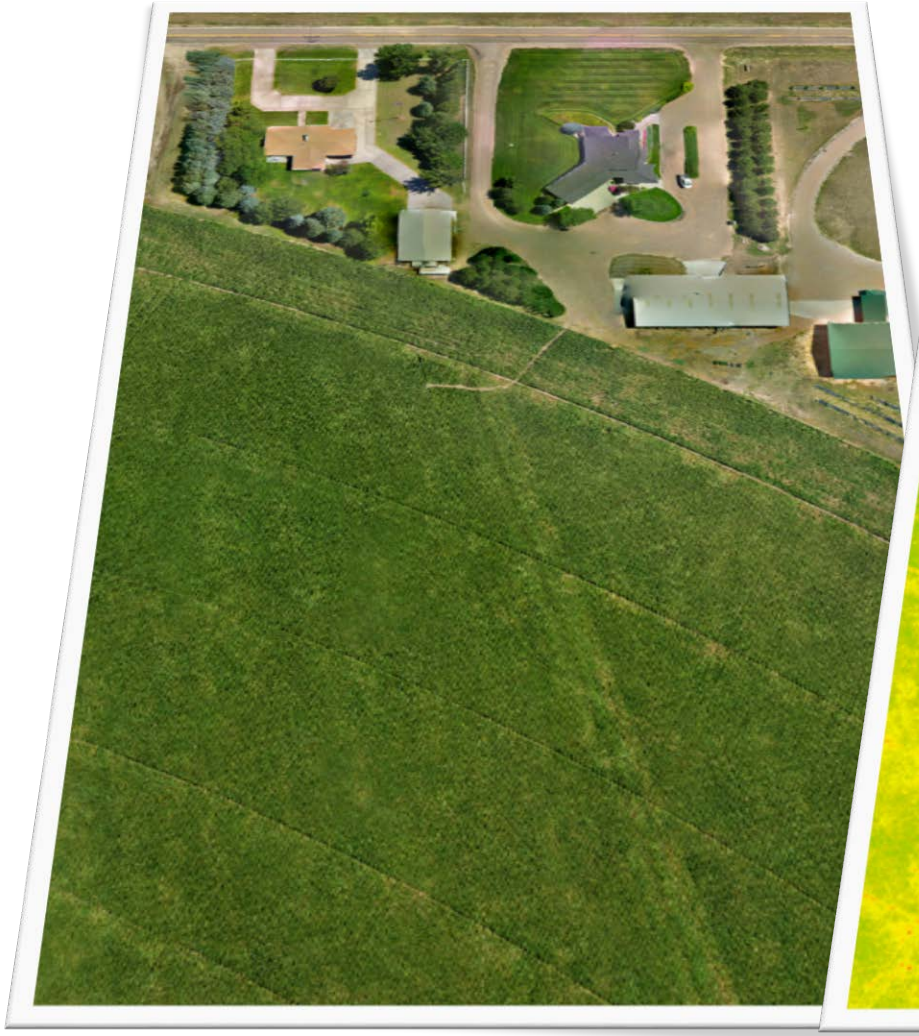
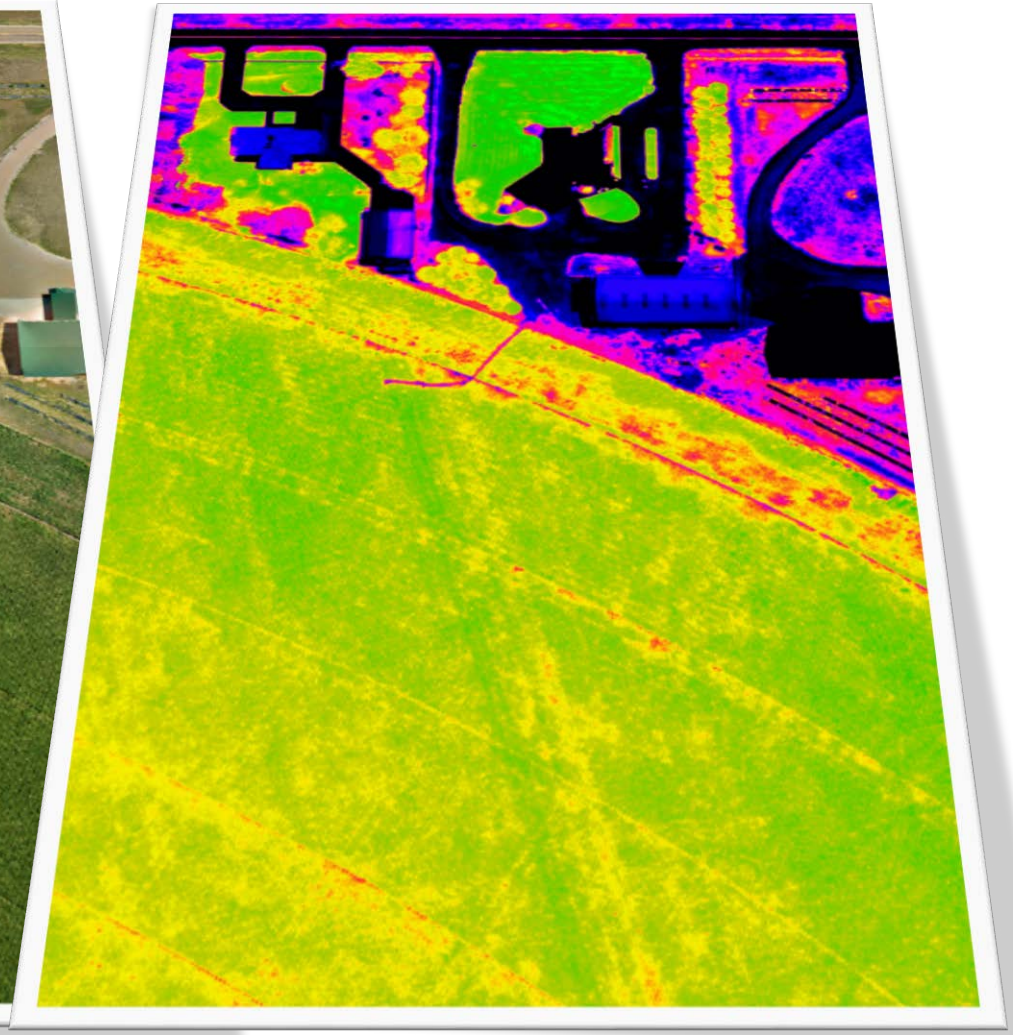
Measure What Matters

Air Data Solutions

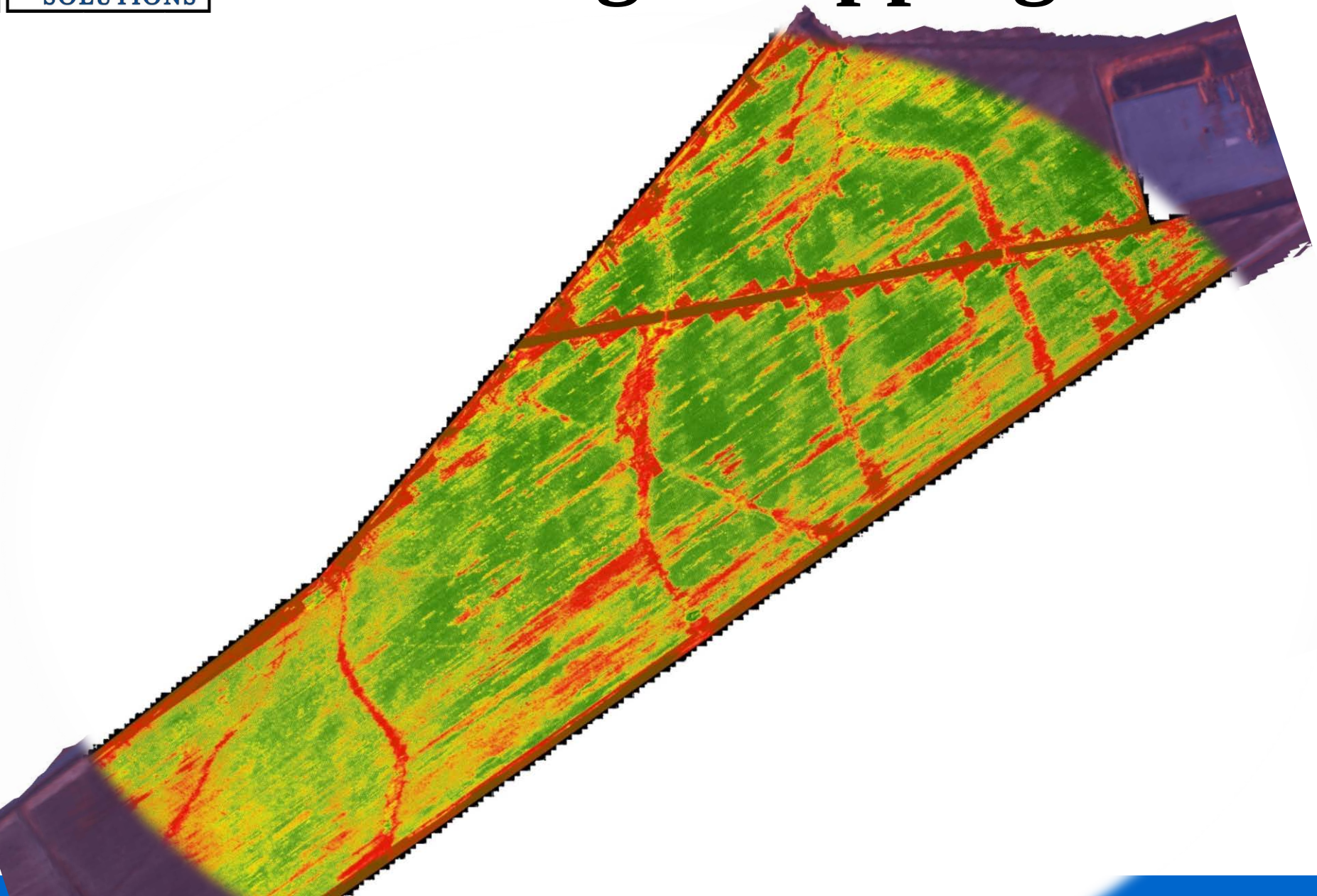
Crop Stress Mapping





Drainage Mapping

Drainage Mapping

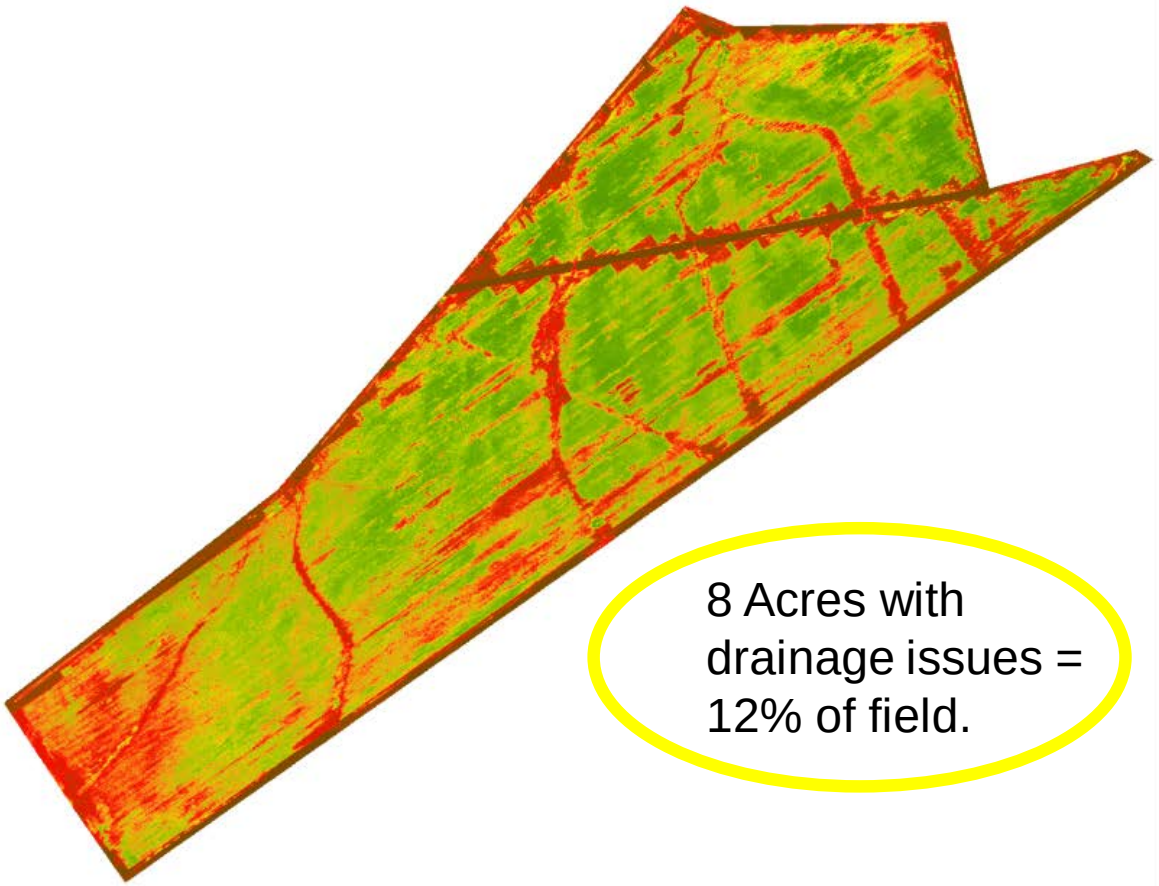


Drainage Mapping

AgPixel

Cotton 2 - Field Report

Air Data Solutions →



Surveyed: 6/28/2015

Area: 66 ac

NDVI Classes

High

22.0 %	14 ac
11.2 %	7 ac
14.8 %	10 ac
10.7 %	7 ac
11.2 %	7 ac
8.1 %	5 ac
4.6 %	3 ac
4.4 %	3 ac
4.9 %	3 ac

Low

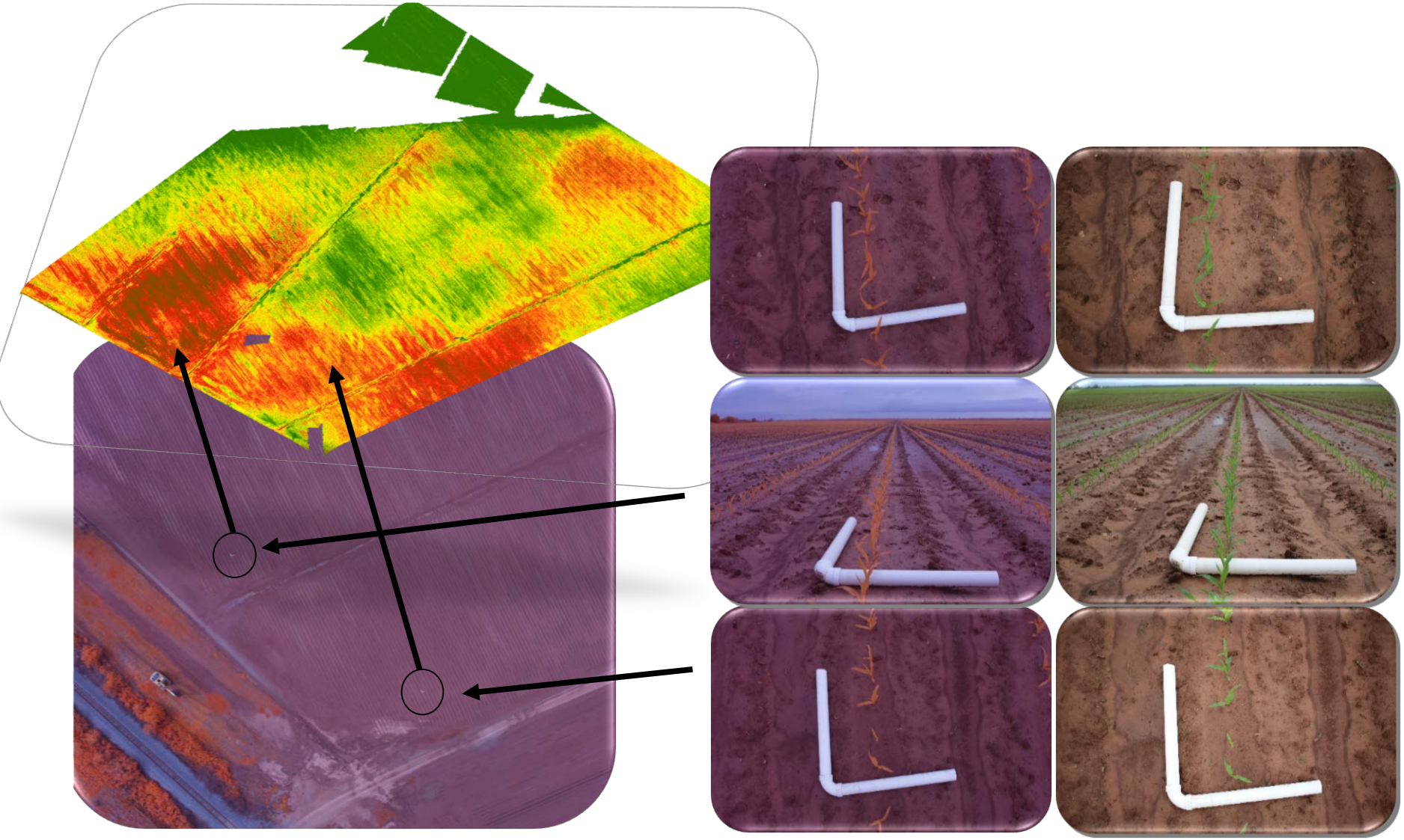
Statistics

Min:	33
Mean:	167
Max:	219
SD:	15.0
Var:	223.5

8 Acres with drainage issues = 12% of field.

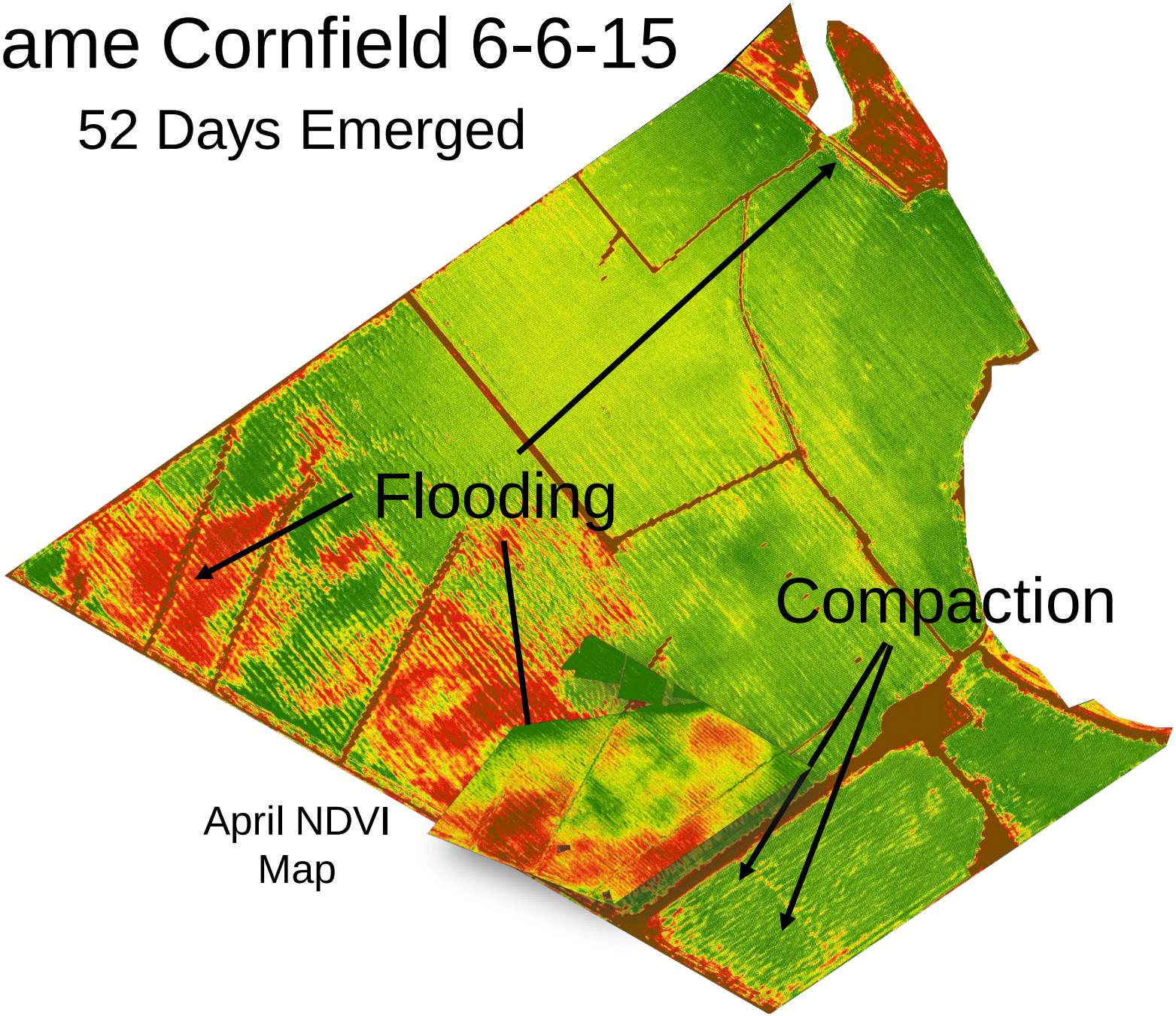
Early Emergence Mapping

April 15, 2015 - 7 days emerged



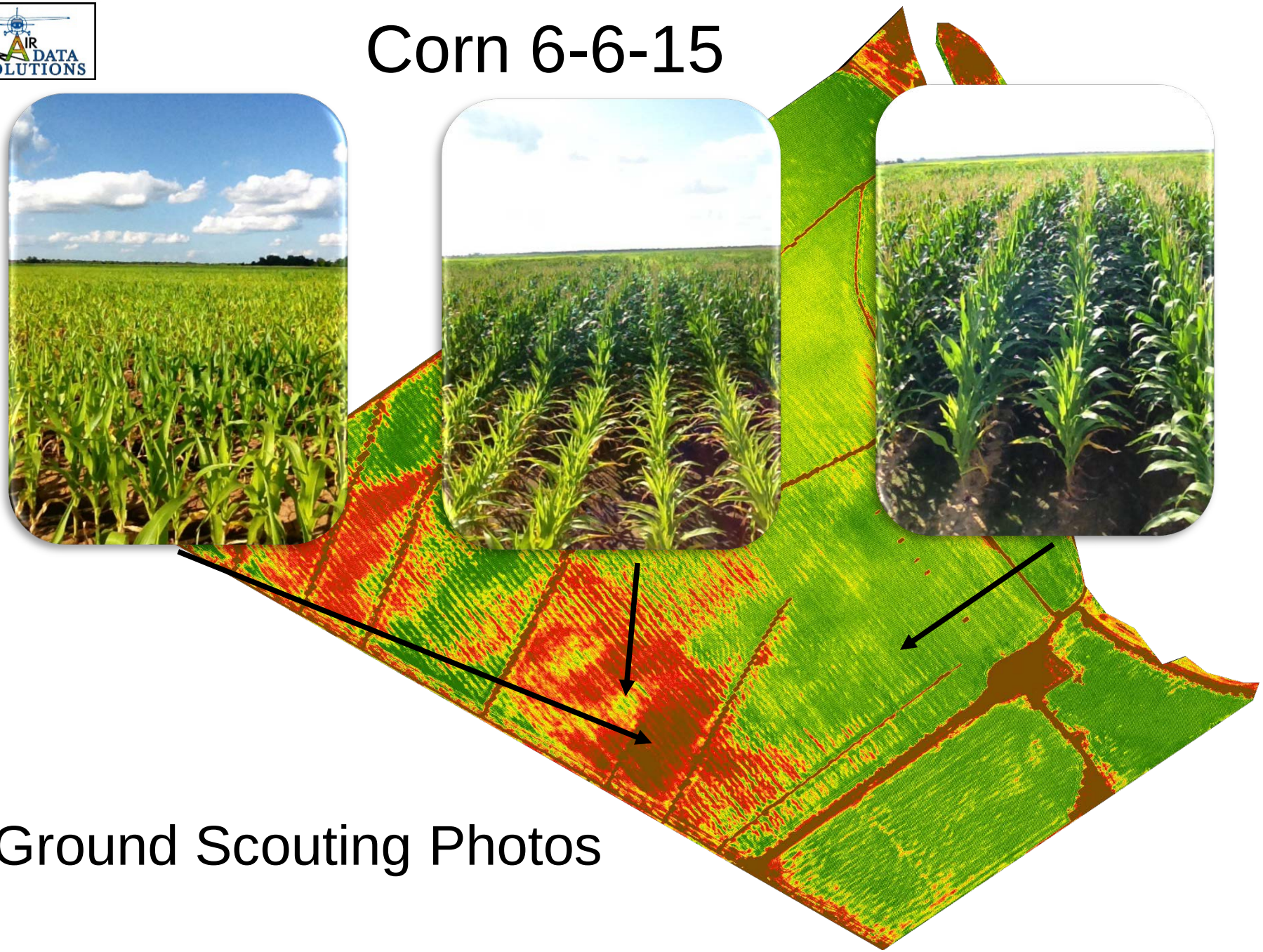
Same Cornfield 6-6-15

52 Days Emerged



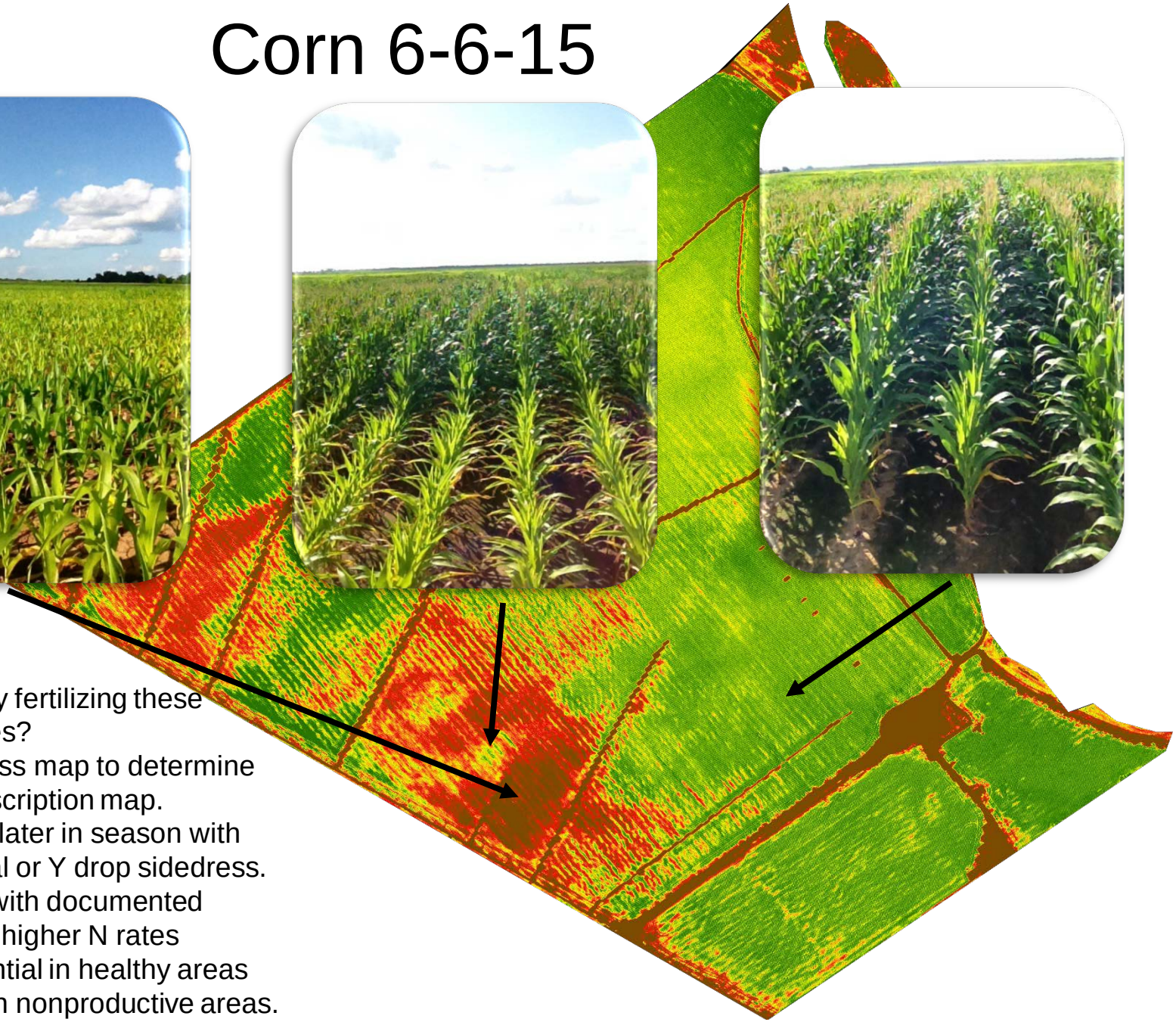
April NDVI
Map

Corn 6-6-15



Ground Scouting Photos

Corn 6-6-15



Proposal-

Why waste money fertilizing these nonproductive ares?

1. Use crop stress map to determine variable rate prescription map.
2. Apply Nitrogen later in season with variable rate aerial or Y drop sidedress.
3. Satisfy NRCS with documented analysis for using higher N rates
4. Maximize potential in healthy areas
5. Minimize cost in nonproductive areas.

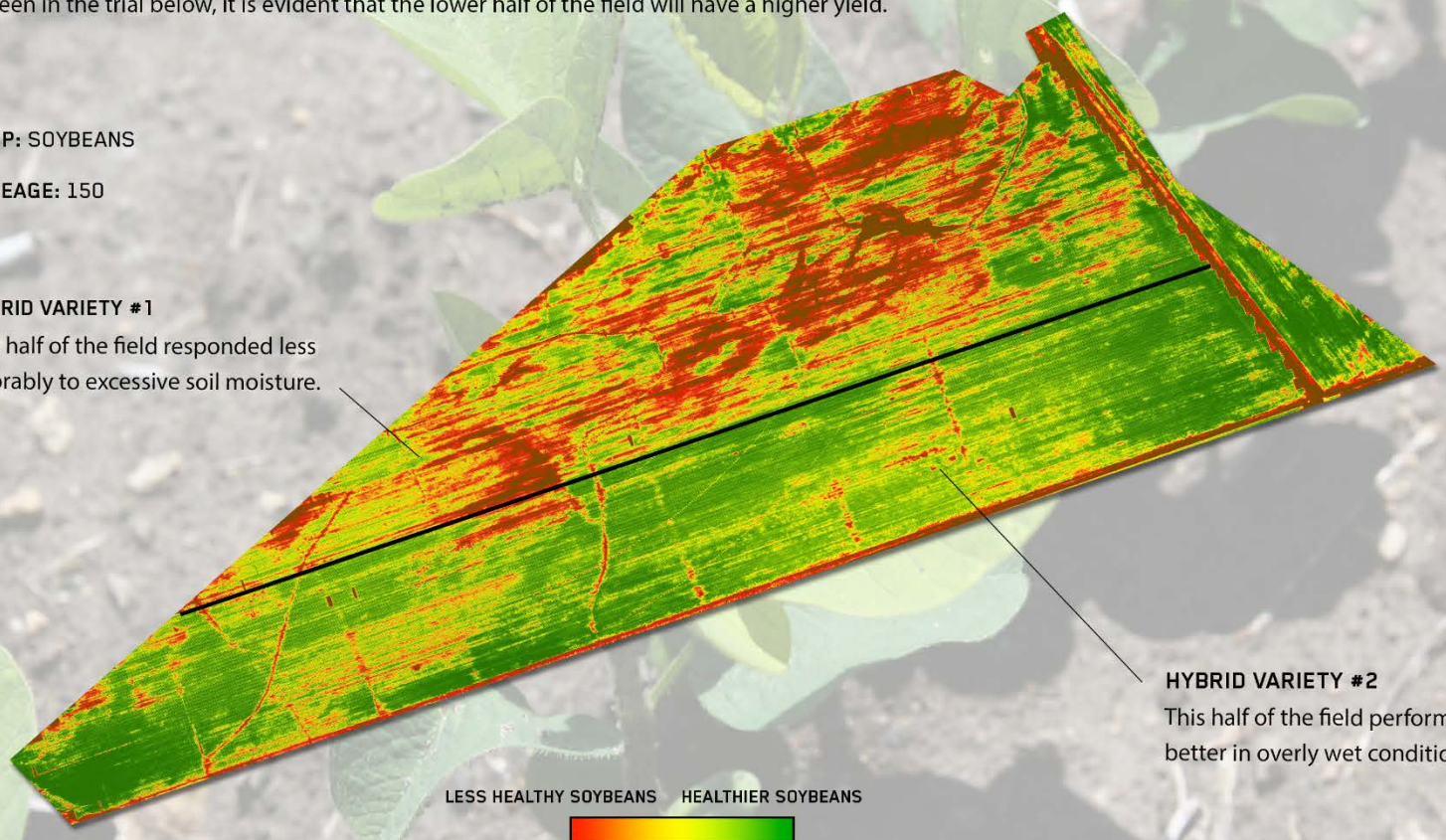
Hybrid Comparison June 6, 2015

Aerial imagery provides an additional layer of information that can be reviewed alongside soil and other management maps, allowing producers to make the wisest decisions from season to season. In selecting the proper genetic variety for climate conditions, color-infrared and NDVI* imagery can provide key indicators of plant health and vitality.

As seen in the trial below, it is evident that the lower half of the field will have a higher yield.

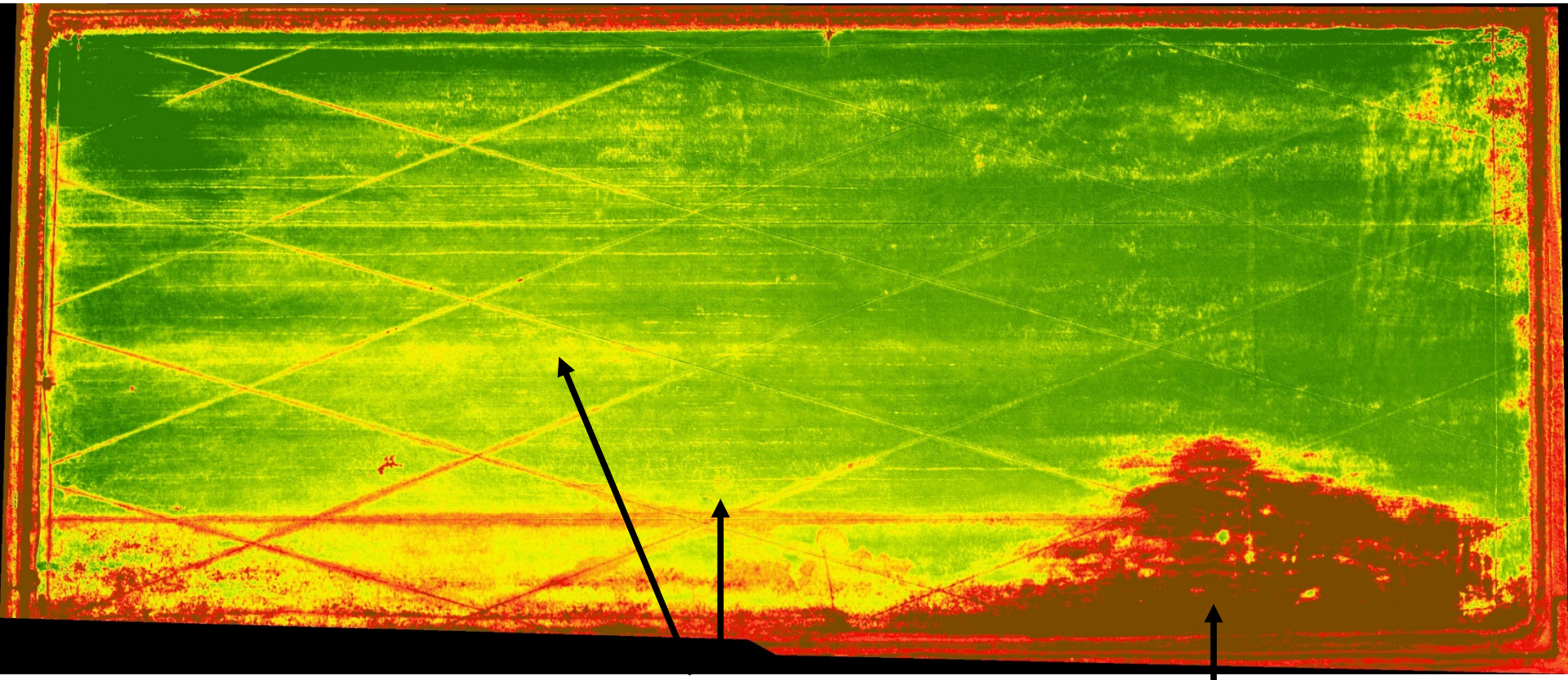
CROP: SOYBEANS

ACREAGE: 150



*Normalized Difference Vegetation Index

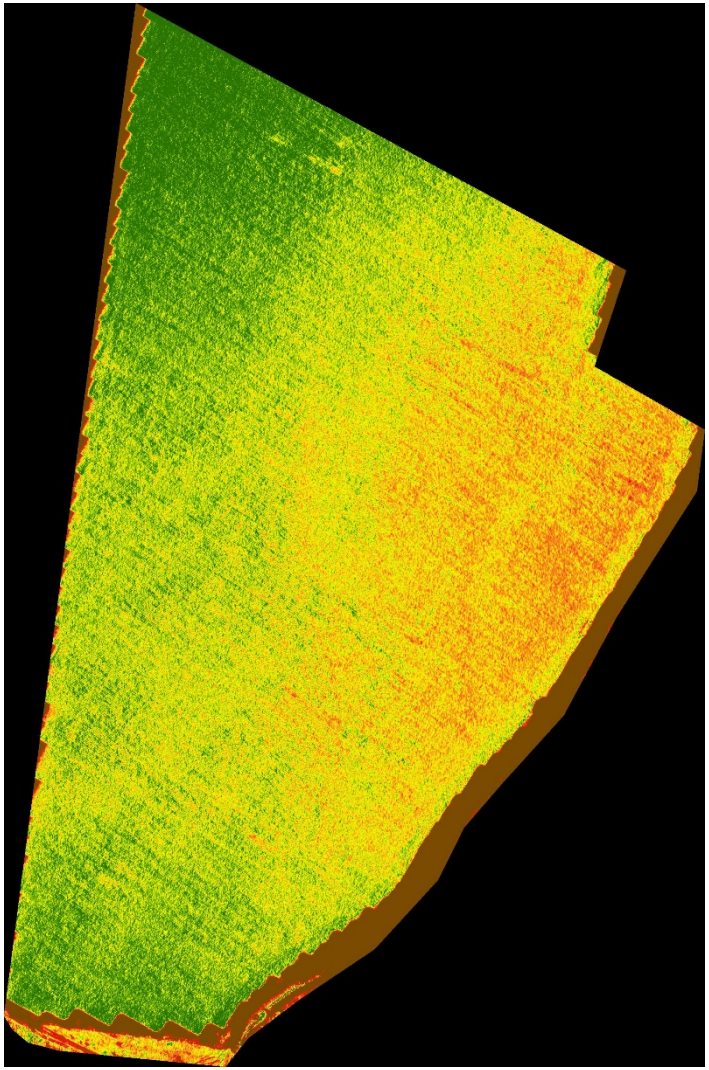
Why is ground truthing important



Agronomist sampled the yellow areas and found the root cause was low ph.

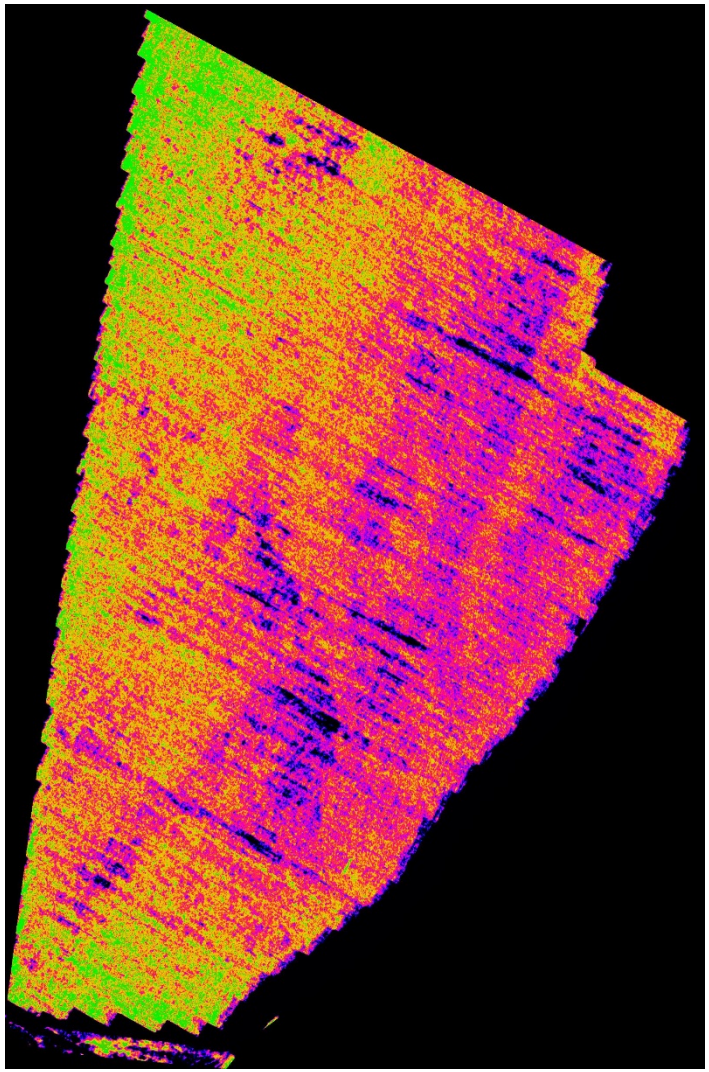
Low Soil pH releases aluminum that ties up (chelates) phosphorus
And creates a nutrient deficiency resulting in underdeveloped roots.

Corn – May 2015
Locating low fertility caused by levelling ridges

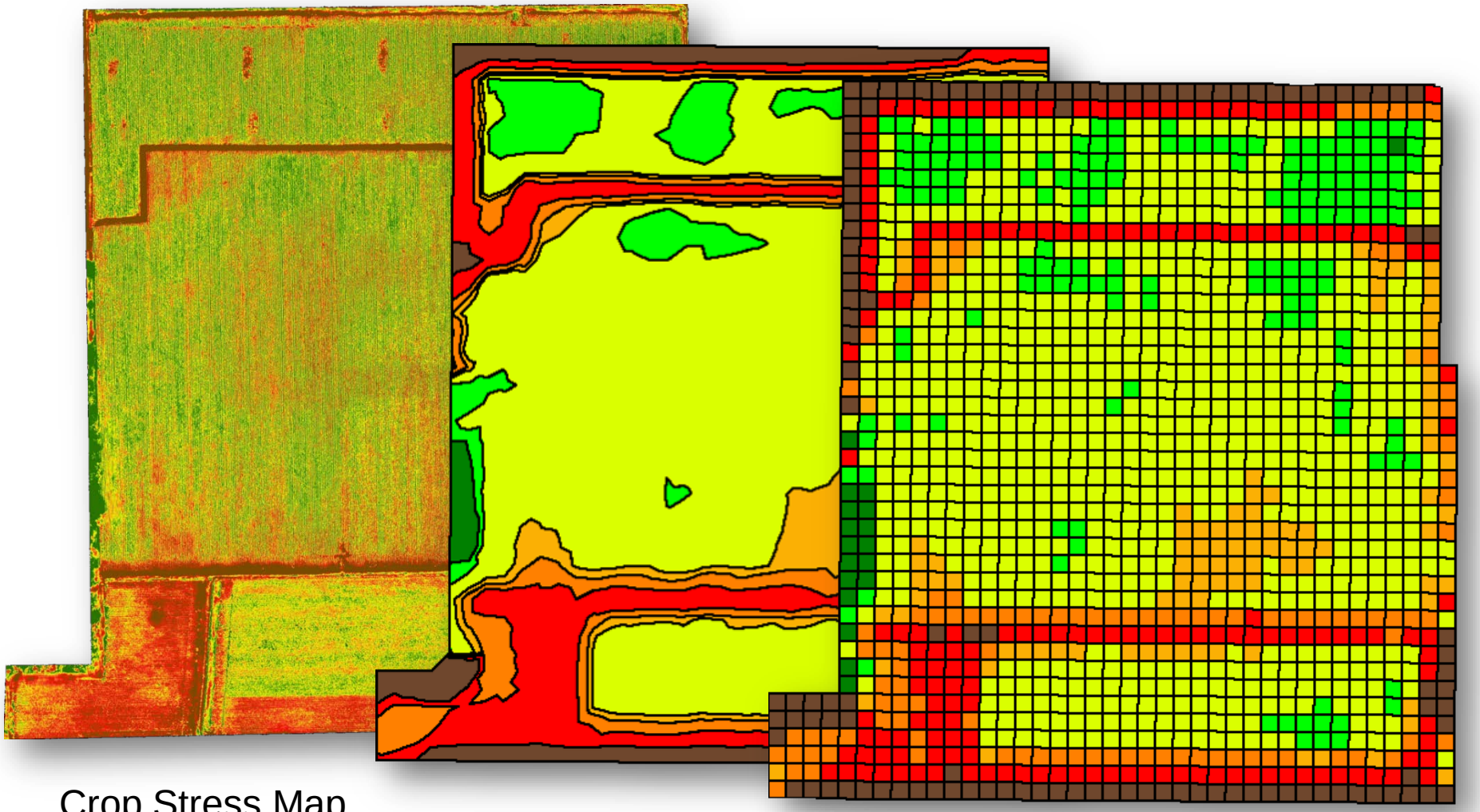


Reprocessed to identify ridge lines where top soil was removed.

Used data to develop prescription map for applying gin trash to build up organic matter in low fertility areas.



Variable Rate

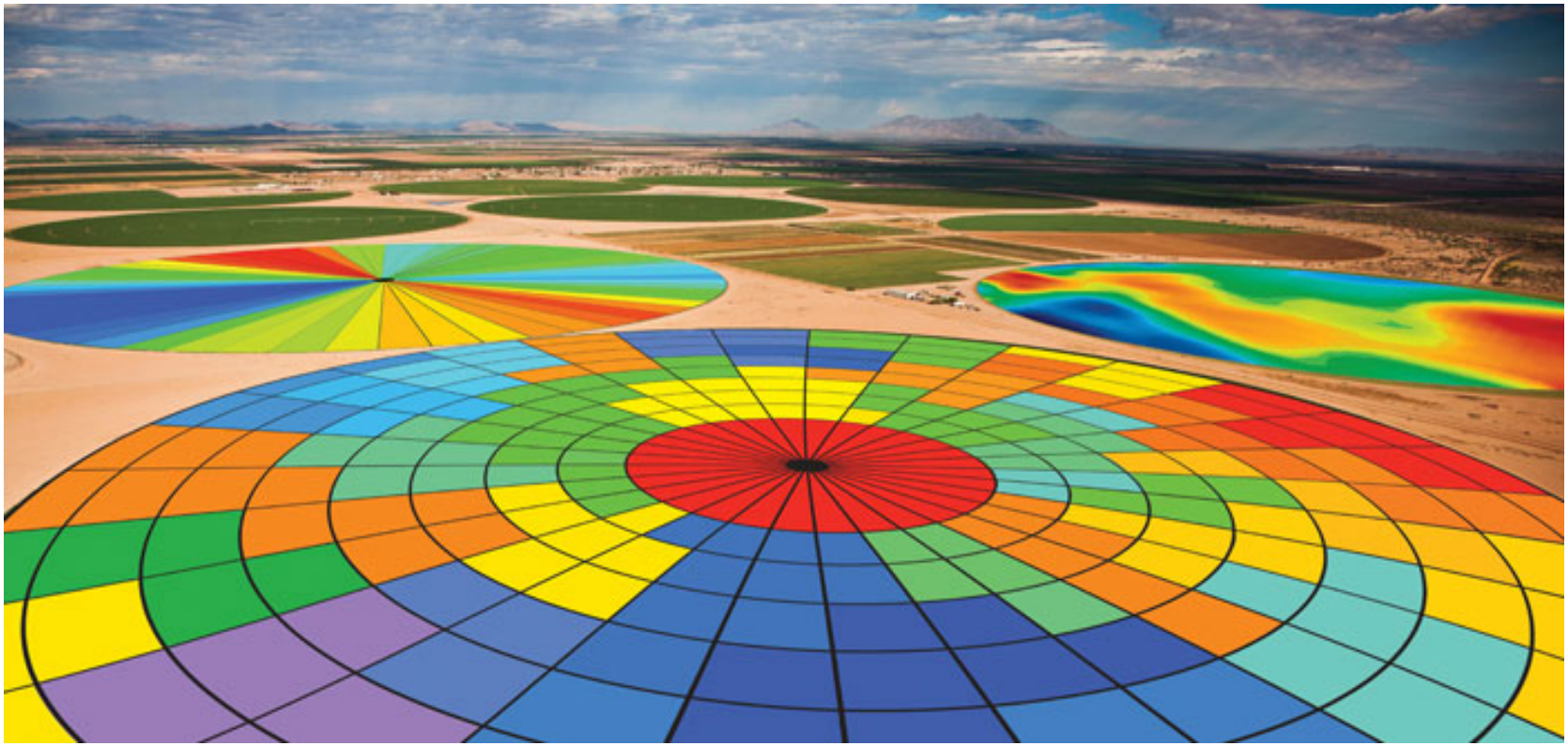


Crop Stress Map

Zone Map (SMS)

Prescription Map (SMS)

Variable Rate Irrigation



Precision application of fertilizer, pesticides, and herbicides through center pivot irrigation systems.
Remote management and monitoring of pivot thru Valley Tracker
Improved water efficiency, and timeliness of irrigation vs. flood.
Reduces labor cost.

Corn Yield Estimate

COMPARISON BETWEEN NDVI AND CROP YIELD MONITOR MAPS FOR CORN

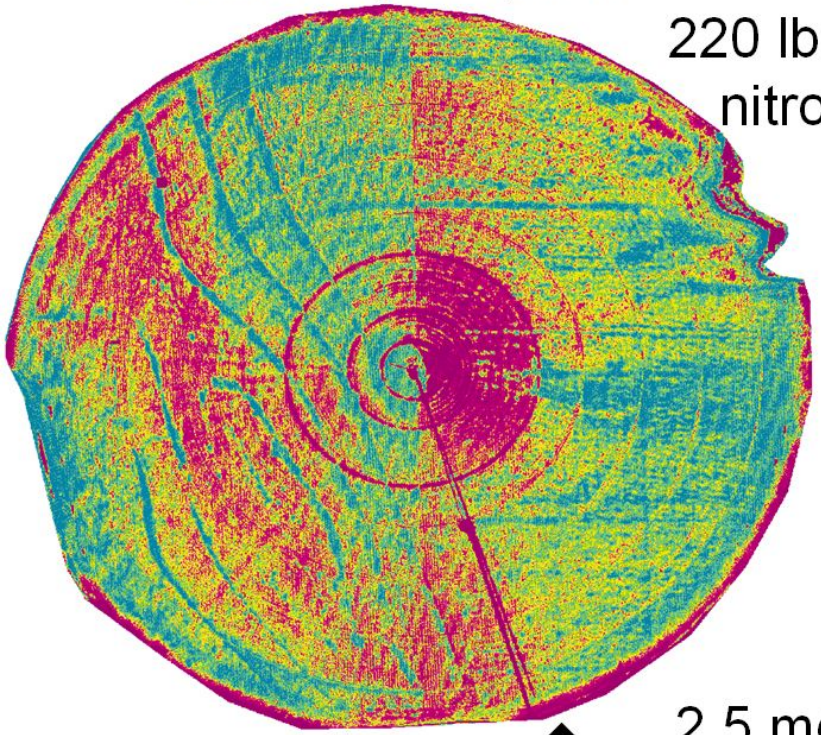
NDVI Map

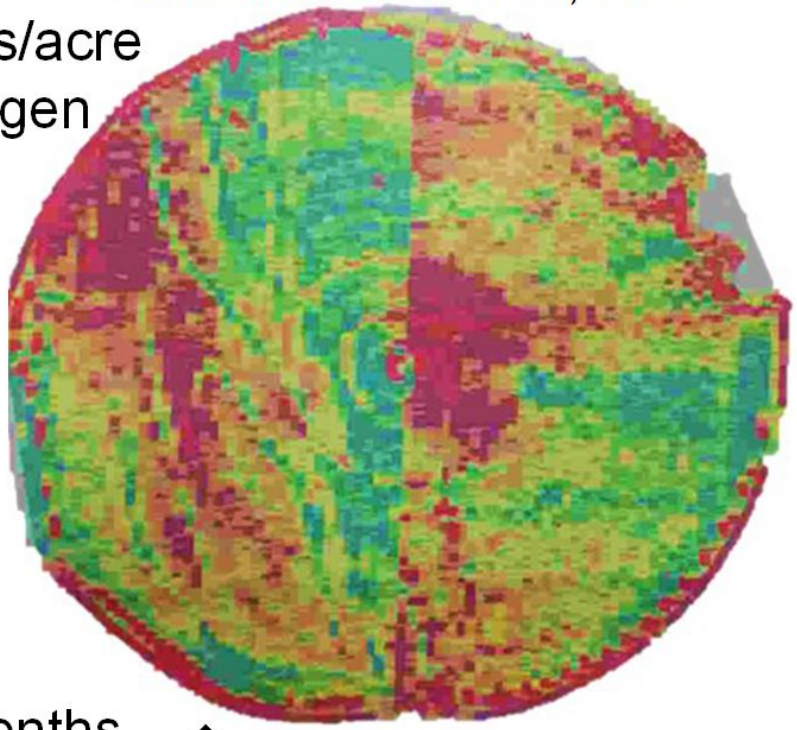
Flown August 1, 2014

Crop Yield Monitor Map

Harvested October 16, 2014

220 lbs/acre nitrogen





2.5 months

Lower Yields

Higher Yields

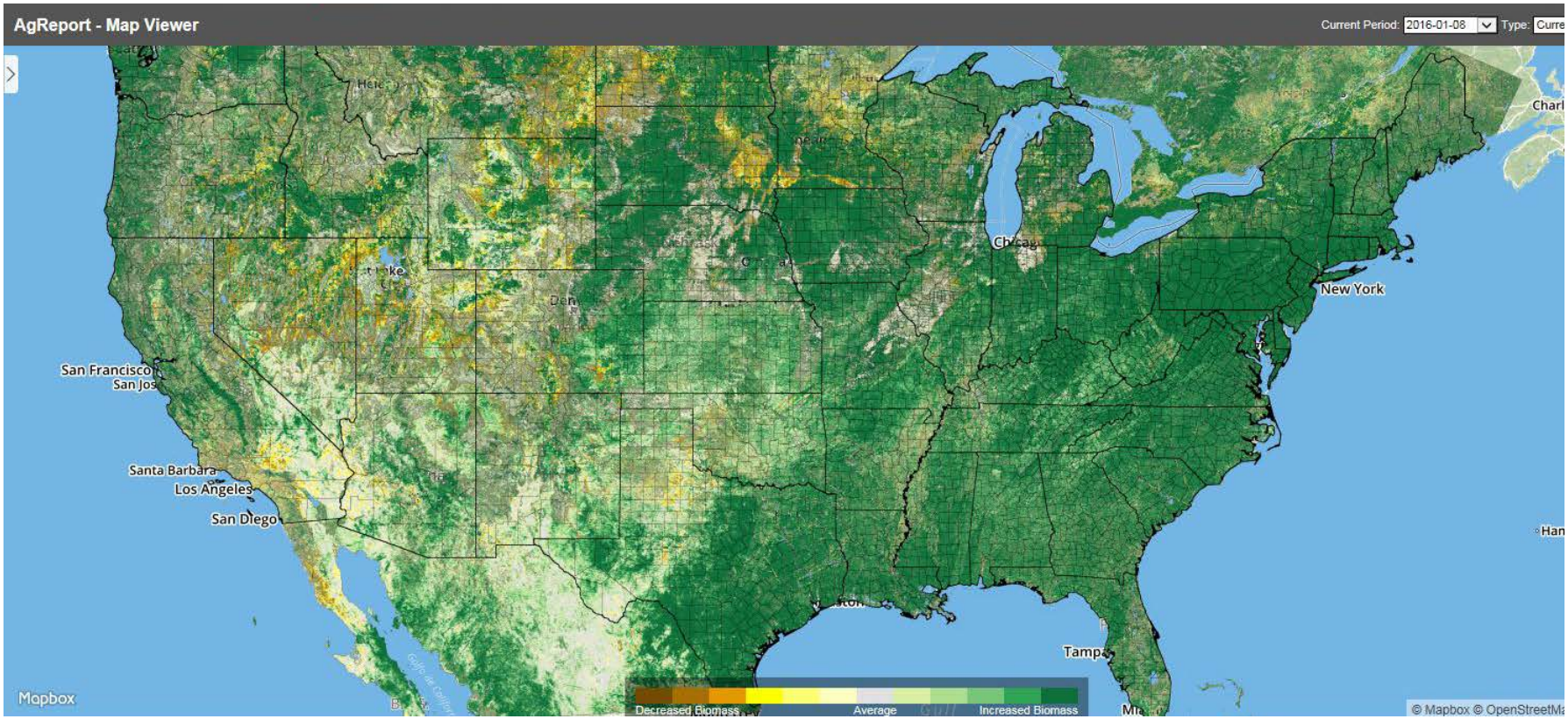
Bushels 0 50 100 150 200

Low NDVI

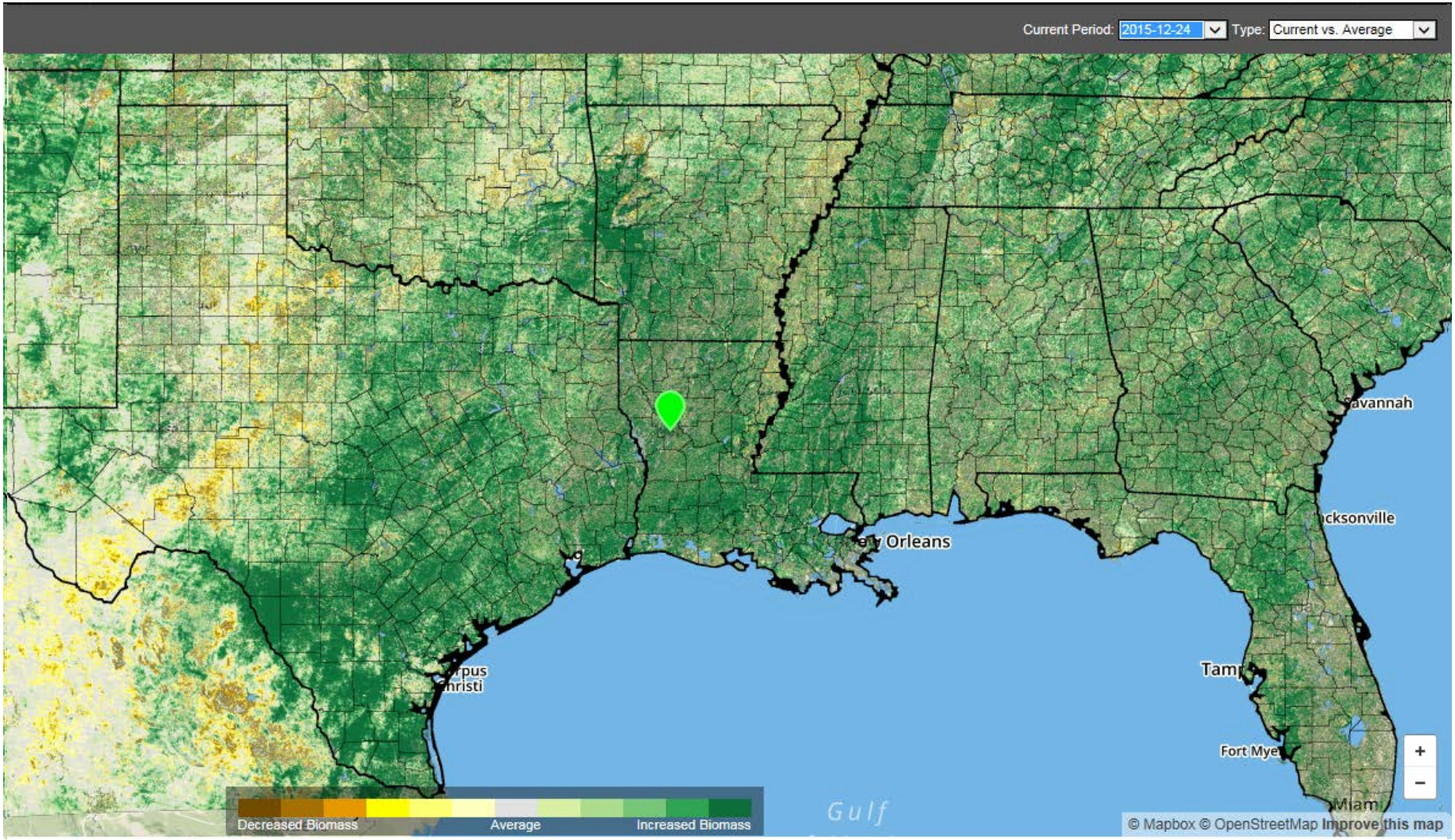
High NDVI

Ag Report

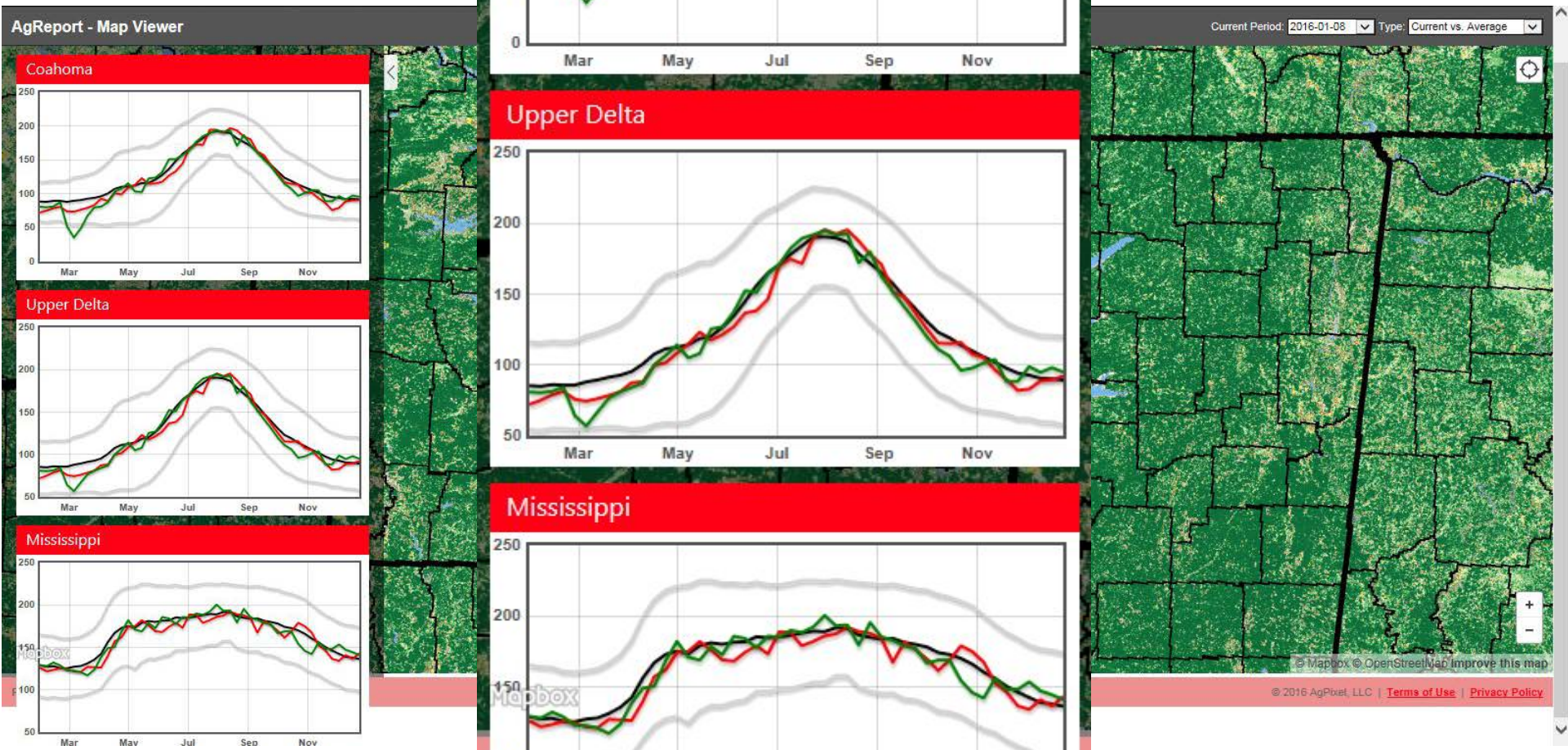
Regional Satellite NDVI Data showing biomass trend on a weekly basis.

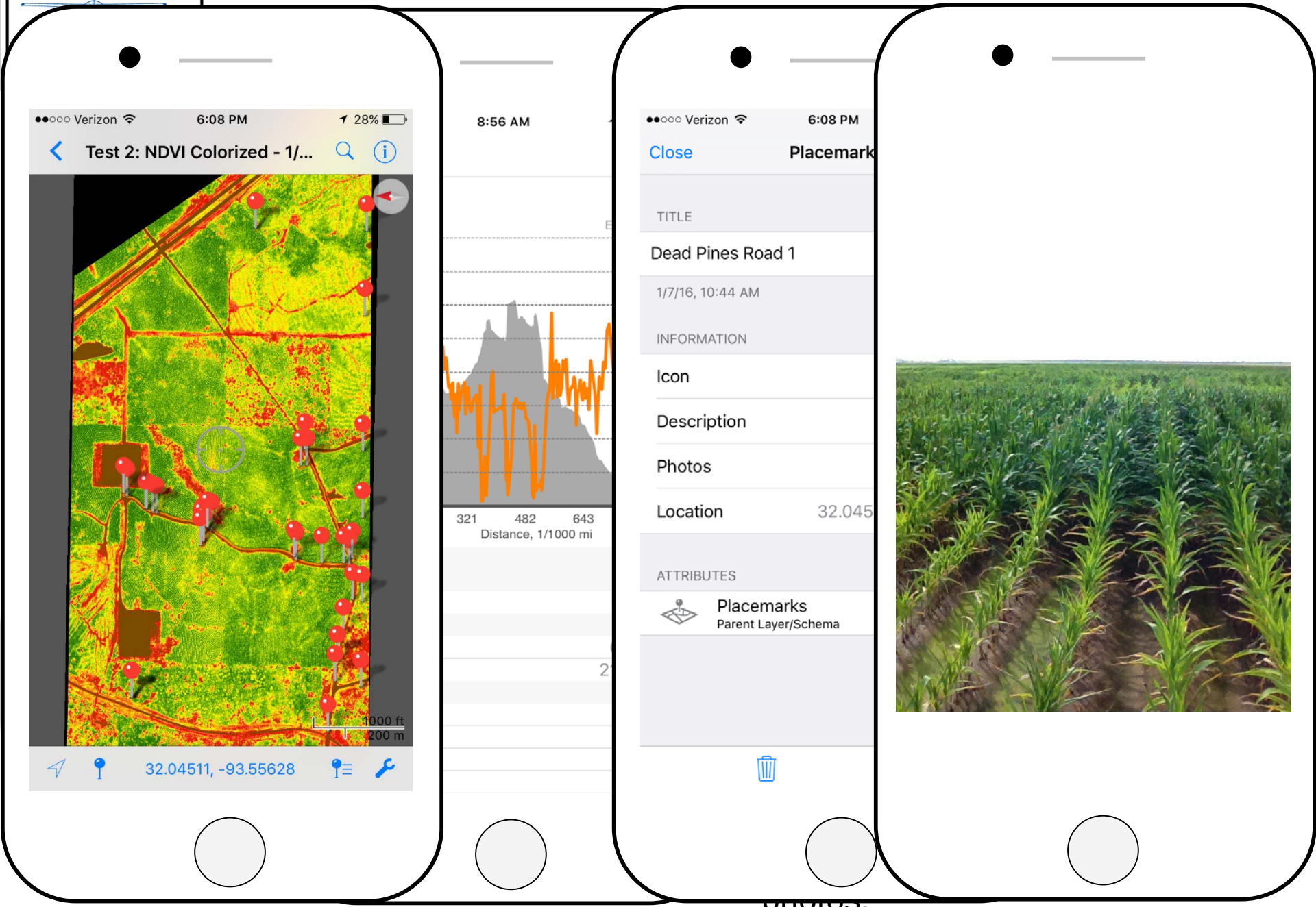


Air Data Solutions



Coahoma County, ared to 10 year average.




Verizon
6:08 PM
28%
Test 2: NDVI Colorized - 1/...
1000 ft
200 m
32.04511, -93.55628
8:56 AM
321
482
643
Distance, 1/1000 mi
Verizon
6:08 PM
Close
Placemark
TITLE
Dead Pines Road 1
1/7/16, 10:44 AM
INFORMATION
Icon
Description
Photos
Location
32.045
ATTRIBUTES
Placemarks
Parent Layer/Schema

photos.

Cost:

Appx 1 bushel of corn

Sized to Scale of 1 Acre

12 Row Header = 20 Feet

27,000 Ears / Acre 600 Kernels / Ear = 150 Ears / Bushel

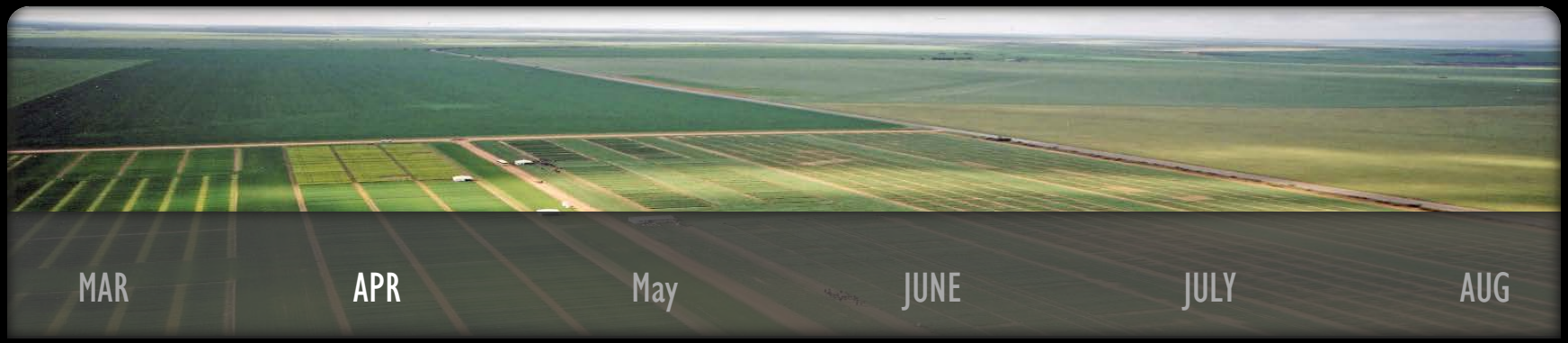
30” Rows –

28,000 See

Benefits:

1. Feed the crop when it needs it.
2. Push the potential
3. Reduce inputs in low production areas
4. Spot disease, pests, and stress early
5. Locate source of problem
6. Forecast yield potential

Recommendations



Flight 1

1. Early after emergence (Mar-Apr)
   A. Plant density and replants
   B. Use as scouting map for tissue and soil sampling
   C. Determine 2nd application of variable rate nitrogen

Flight 2

2. Mid-Season (May-July)
   A. Determine effectiveness of applications
   B. Use as scouting map for pest and weed infestations
   C. Variable rate PGR for cotton, or pesticide and herbicide applications
   D. Forecast yield potential

Flight 3

3. Late Season (July-Aug)
   A. Monitor irrigation effectiveness
   B. Use as scouting map for pest and weed infestations
   C. Burn down variable rate applications
   D. Forecast yield potential
   E. Insurance Claims, accurate zoning of affected acres

Air Data Solutions

"Measure What Matters"

318-471-2456

don@airdatasolutions.com

www.airdatasolutions.com