

# Decision Ag for Conservation

InfoAg 2K16

Using technology to increase yields and minimize our carbon footprint

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# Drones and Earthworms

Do you really want one? (Drone)

Can you Farm Without? (Earthworms)

# Hardpan is more than a Root Barrier

Roots have difficulty penetrating the hard layer, but water also has trouble migrating upward

Nightly upward migration of soil moisture allows crops to avoid wilt between rains

# UAS for Scouting vs Mapping

Great tool for a quick look at a field, only need a GoPro or goggles while flying.  
Inexpensive.

Mapping is different. Cloud free conditions, no shadows from trees on field borders.

Getting the flight when you want it, is not always possible.

NOT inexpensive!!

# Owner Operator or Custom Hire?

It is time consuming.

Other obligations go undone.

Processing. Upload. Download. Internet. Tech Support. No Support.

Expensive to hire a flight every time you want one.

# Allow Others

Next Generation may (may) be better able to diagnose issues with Precision Ag tools.

That's because they are not burdened with the other headaches of the farm (yet).

DO NOT discount the value of this ability, in many cases there will be a greater reward for it than driving a tractor while still in diapers.

# Allow Others II

By teaching the next generation the importance of a Healthy farm, they will focus knowledge gathering in that area.

Equipment Calibration, Recordkeeping, Mapping, Tissue Sampling and Data Storage location are examples of time consuming projects equal to or greater than being “Our best Combine Operator”.

# Soil Health Qualities

Sample Tissue and /or soil at locations defined by a process as opposed to the “hat-throwing” method.

Map these characteristics as healthy zones versus areas requiring attention.

As the tilth and health of these areas becomes more favorable, use synthetic inputs accordingly.

Irrigated fields with healthy soil are managed as such.



# Soil Health and Irrigation

Hardpan is not just about root penetration.

Tillage increases runoff rate, but infiltration rate is influenced by hardpan, which in turn is influenced by the health of the soil at that depth.

Hardpan and tith affect the night time rise of moisture.

# Cover Crop or Worker Crop

Winter cover works hard for us, replacing mechanical inputs.

These growing plants should be mapped just like our cash crops.

The success of the cover greatly influences the subsequent cash crop.

Although we may not get a yield map on our Covers from a mechanical harvester, an NDVI image can help us plan our cash crop fertility program.

# Available Resources

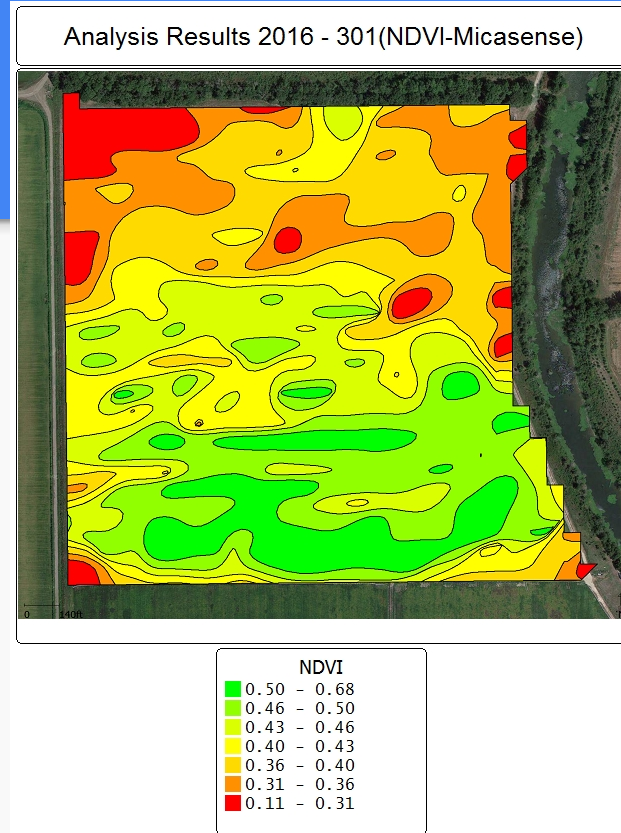
Local Soil and Water Conservation District

Natural Resource Conservation Service

Local Private Sources

# NDVI Map

Shows variability












# NDVI legend

Disregard false

Highs and lows

Edit Legend

NDVI Legend

Color	Not less than	But less than	Description	Visible
	0.51	0.68		<input type="checkbox"/>
	0.47	0.51		<input checked="" type="checkbox"/>
	0.45	0.47		<input type="checkbox"/>
	0.42	0.45		<input type="checkbox"/>
	0.40	0.42		<input type="checkbox"/>
	0.37	0.40		<input type="checkbox"/>
	0.35	0.37		<input type="checkbox"/>
	0.30	0.35		<input checked="" type="checkbox"/>
	0.11	0.30		<input type="checkbox"/>

Range Settings

Ranges: 9


Mode: Equal Points

Start at Zero:

Show End Ranges:

Color Settings

Mode: Green-Yellow-Red



Reset Sticky Ranges

Invert Colors:

Format Settings

Precision: 2

Scientific Notation:

Show Legend As...: Range Values Only

Save Load

Statistics

Min: 0.115

Max: 0.676

Mean: 0.410

Median: 0.414

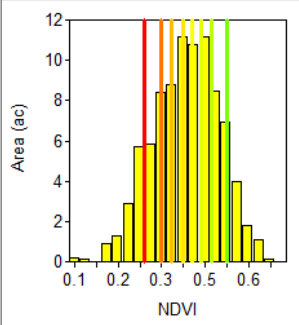
Std. Dev.: 0.084

Variance: 0.0070

Count: 908

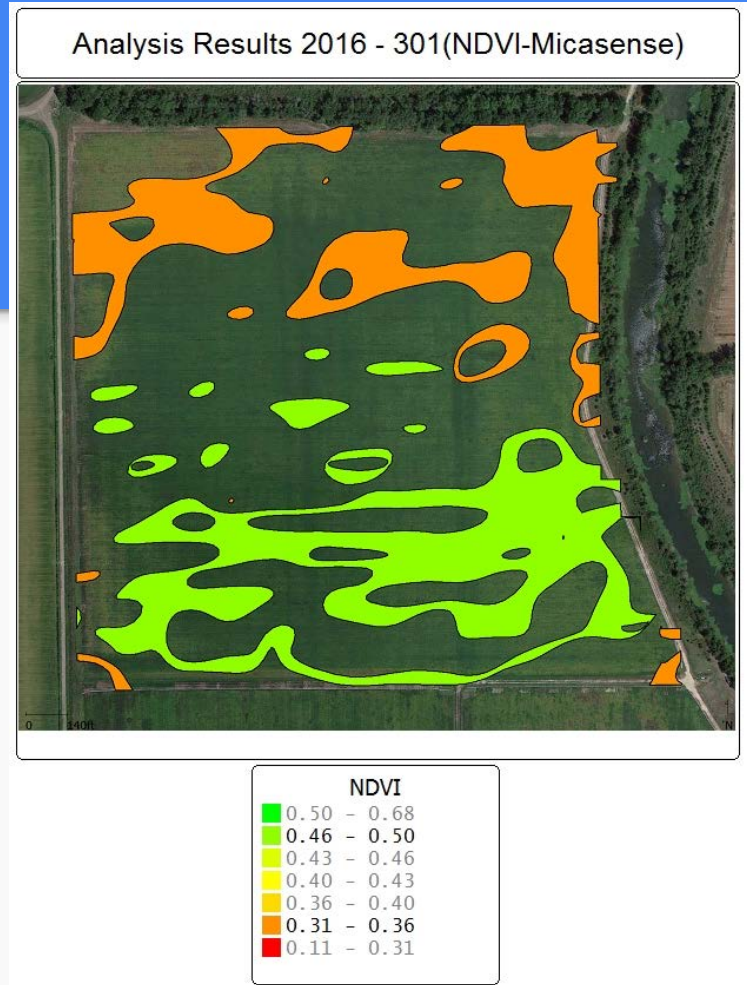
View Legend Lines

View Larger Histogram...



# Useful tool

Scout can go to location for sampling



# Sentera Phoenix 2



# Kits





# Micasense RedEdge



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