Practical Uses of UAS Data For Managing Inputs

What we will cover today:

• Concept: Practical versus Scientific NDVI
• NDVI can show where to spray (apply)
• Why Farmers care
• Healthier Crops – Yield Improvement
• UAS adds to your current data sources
• Technology continues to change how we farm
Concept: Practical versus Scientific
NDVI shows you variances

- Zoom Capability
- Images Georeferenced
- Automatically Triggered
- Export: TIFF, JPEG, XML…
- Simultaneous Data Collection

Crop stress detection

Maps for scouting/measure
UAS shows 100% of the field versus 10 to 15%.

Figure 1: NDVI zone map of an Alfalfa field. Stressed areas were identified using aerial imagery from the AgDrone™ System.

Figure 2: NDVI imagery used to show growth difference one month later. Image on the left was a March flight, while the image on the right is the same field in April.
Why Farmers Care

- Spray 25% to 50% less
- Chemical costs drop
- Labor & Fuel costs drop
Figure 1: NDVI image of a Hazelnut orchard. Stressed trees were identified using aerial imagery from the AgDrone™ System.

Figure 2: NDVI aerial image of a wheat field. Our system was able to detect the presence of a wireworm problem in the field.

Figure 3: Visible imagery used to check sprinkler line for adequate performance. The entire line was imaged during the flight.

Figure 4: A farmer used this imagery to get an estimated count of his squash in this particular field.

Identify Stress, Irrigation Problems, Damage & More… Scouting on foot is slow and covers limited ground
UAS adds to your current data sources

• Capture and use data today

• You do not have to wait for anyone else to capture and act on the data

• Compare and contrast to airplane and/or satellite data
Exporting UAS Data

This is what the data viewer looks like.

Flight Data: weather, field size, flight time
Exports to Georeferenced files
TIFF, JPEG, KMZ...

Data goes into your variable rate systems.

Our data files will work with your system.
We do not use a proprietary file formats.
UAS Data and Variable Rate Equipment

More Knowledge
- Know more faster
- Simplifies Decision Making
- Reduces Input Costs (water, chemicals, etc.)

Import to Sprayers
- Zone Maps for Variable Rate
- Upcoming Shape Files

Measuring Yields
- Tune up yields
- Reduce irrigation costs
- Diagnostic Speed & Efficiency
AgDrone™ System

Precision Agriculture